AN INTERIOR EMPIRE:

HISTORICAL OVERVIEW OF THE COLUMBIA BASIN

Submitted to

Eastside Ecosystem Management Project
112 East Poplar Street
Walla Walla, WA 99362

Stephen Dow Beckham
1389 SW Hood View Lane
Lake Oswego, OR 97034-1505

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Preface

The following report was prepared by University scientists through cooperative agreement, project science staff, or contractors as part of the ongoing efforts of the Interior Columbia Basin Ecosystem Management Project, co-managed by the U.S. Forest Service and the Bureau of Land Management. It was prepared for the express purpose of compiling information, reviewing available literature, researching topics related to ecosystems within the Interior Columbia Basin, or exploring relationships among biophysical and economic/social resources.

This report has been reviewed by agency scientists as part of the ongoing ecosystem project. The report may be cited within the primary products produced by the project or it may have served its purposes by furthering our understanding of complex resource issues within the Basin. This report may become the basis for scientific journal articles or technical reports by the USDA Forest Service or USDI Bureau of Land Management. The attached report has not been through all the steps appropriate to final publishing as either a scientific journal article or a technical report.

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"About midnight we reached the long for Columbia River, but alas! what a disappointment. We had thought that we would find the Promised Land, we had set our hopes on a new Eden! Not so! We found a dry and arid land where there was not a piece of wood, not even a stick, and where a violent wind carried clouds of dust with it."

Honore-Timothee Lempfrit, Diary, Columbia Plateau, September, 1848

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Introduction

This historical overview addresses some of the more important historical themes and trends transacted in the watershed of the Columbia River east of the Cascades. The narrative is concerned with land in 91 counties and six states. The larger parts of the project area are Idaho, eastern Washington, and eastern Oregon. Also included are portions of western Montana and Wyoming, and two counties in northern Nevada. By definition south-central and southeastern Oregon, though not within the Columbia River drainage, were included in the Eastside Ecosystem studies.

This overview is focused on the region lying between the Cascades on the west and the Bitterroots and Rocky Mountains on the east. This is a largely rural area and has the least population density in the Pacific Northwest. Because the study area transcends state boundaries and excludes western Oregon and Washington, the writing of this narrative required use of diverse materials and working with census compilations in order to find patterns not skewed or shaped by figures or information from areas of greater population and economic activity west of the Cascades.

The overview seeks to lift up several of the events in the past 200 years which have set a pattern or changed the course of this region's development. The goal of the overview is to grasp the larger picture and, where possible, illustrate it with examples. The narrative is thus a partial view of what has been the human experience. There are numerous topics not assessed such as education, politics, urbanization, and literary life. The bibliography, however, suggests specific studies which will illuminate in greater detail on the history raised or touched on this is report. The historical quarterlies of Montana, Idaho, Washington, and Oregon--published for decades--contain a useful literature for even

more specific consideration. Similarly county histories and biographies or special studies such as those on the various districts of the Army Corps of Engineers, U. S. Forest Service cultural overviews, and other literature can prove highly useful in a more detailed study.

To those who encouraged this project and had the patience to permit me to pursue this assignment--thank you.

Stephen Dow Beckham
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1. Native Americans

For thousands of years native peoples have occupied the vast expanse of plateaus and canyons lying between the Cascades and the Bitterroots and Rockies. This region--the interior province of the Pacific Northwest--was the homeland of several different bands and tribes at the end of the eighteenth century. Those peoples along the main Columbia and its primary tributaries, in spite of their different languages, shared many elements of a common lifeway. The term Columbia Plateau Culture is often used to differentiate them from their neighbors.

In spite of cultural similarities, the peoples of the region also displayed influences and relationships from other areas. To the west the Indians who resided between Celilo Falls and Hood River confirmed by their plank houses, cedar dugout canoes, and heavy subsistence dependence on fish strong linkages to the Northwest Coast lifeway west of the Cascades. The natives of the Klamath Basin, Goose Lake region, Warner Valley, Harney Basin, and large parts of southern Idaho possessed a seasonal round and linguistic relations which tied them to the Great Basin--another major cultural tradition of the American West. On the eastern Plateau the Nez Perce, Palous, Cayuse, Umatilla and their neighbors had acquired numerous elements of Plains culture, an influence which stemmed from their travel through the mountains to trade and to hunt buffalo. Thus, the Plateau Culture Area exhibited common features but also mirrored the dynamics of trade, exchange, intermarriage, and travel which bonded its people to their neighbors on all sides (Kroeber 1939:49-53, 55-59).

Peoples of diverse languages lived across the Columbia Basin in the nineteenth century. The northern portion was largely Salishan country. These people included the Colville, Lakes, Nespelem, Okanagan, Sanpoil, Sinkaietk, Spokane, and Kailspel. The Sahaptin-

speakers held the main stem of the Columbia and its primary tributaries from near the mouth of the Okanagan south toward the Gorge. They included the Sahaptin-speaking Kittitas, Klickitat, Meshal, Palouse, Tenino, Umatilla, Walula, Wanapam, Wayampam, and Yakima as well as the Nez Perce. The Chinookans were the Wasco, Wishram, and Shahala of the Gorge. The Lututamian-speaking Klamath and Modoc resided in the Klamath Basin, while the Uto-Aztecan-speaking Northern Paiute extended far across central and southeastern Oregon. The Bannock and Shoshone resided across the extensive Snake Plain toward the Rockies in southern and eastern Idaho (Ray 1935:107-120; Spier 1936:7-21).

These American Indians heavily focused upon a seasonal round which provided--with work--an abundant variety of foods. Critical to their lifeway was dependence on the fisheries of the Columbia River and its tributaries. The river was their great artery of food and commerce. It yielded salmon, steelhead, sturgeon, lampreys, suckers and trout. The fish came in such abundance that intensive fishing and processessing enabled those who lived at the primary falls and fisheries to secure food surpluses and wealth. Kettle Falls, Priest Rapids, Celilo Falls, Five Mile Rapids, and the Cascades were among the most important of the fisheries. Similarly Salmon Falls on the upper Snake and other rapids afforded important fisheries for the people of the Snake Plain. Annually thousands of Indians gathered at these sites to harvest the flood of fish which moved inexorably from the sea to spawn in the distant headwaters and hinterlands of the Pacific Northwest.

The Indians observed the arrival of the salmon with a "First Salmon" rite and gave thanks that the life-renewing fish had returned to sustain them for another season. This respect and veneration of nature and her bounty extended through the seasonal round and dictated right behaviors for these people (Gunther 1962:610). Writing of the lowly

sucker, for example, Eugene Hunn observed Yakima attitudes: 'The Indians' respect for these fish is exemplified by a special thanksgiving feast at Rock Creek longhouse, now held jointly with that for the first Indian celeries, and by a popular myth that recounts how Sucker--shattered by a fall from the sky--was revived and rehabilitated with bones contributed by many other animals so that people might catch them and enjoy them (Hunn 1990:155-158).

The Indians of the Plateau employed several fishing techniques. At the falls and rapids they constructed fishing platforms and used dipnets and fish clubs to catch the migrating salmon. They also fastened fish baskets to the rocks and, when the runs were intense, the leaping fish sometimes jumped directly into the baskets. The men wove traps for taking eels and, on smaller streams, drove stakes across the river to create a weir where they netted and clubbed the passing fish. Some people used gillnets. Manufactured of plant fibers, these nets had wooden floats and grooved sinkers to stretch them in the water. The migrating fish became entangled in the nets which the fishermen then hauled into their canoes or pulled onto the nearby beach (Spier and Sapir 1930:174-179).

The nearly constant winds of the Plateau provided valuable assistance in food processessing. The Indians cleaned and filleted the fish and hung them by the hundreds in plank-covered sheds or mat shelters along the riverbank. The wind whipped through these "curing stations," dehydrating the fishing. The Indians then packed the dried fish in large storage racks, raised on platforms out of reach of dogs and wild animals, and covered them with planks to keep out the moisture. They smoked eels and ate other fish soon after they caught them (Moulton 1986-91[5]:331).

The Plateau Indian diet included numerous mammals. The Indians highly prized the deer. The men often pursued the deer in the early fall.

While the women and children were picking and sun-drying huckleberries and blackberries in the camps along the flanks of the major mountains looking out across the Plateau, the men were hunting with bow and arrow as well as snare. Their hunt sometimes continued past the first snowfall when, with dogs, they ran the deer through the drifts beneath the forest until they could shoot them (Spier and Sapir 1930:180-182). In the southern part of the Plateau the Indians hunted mule deer and antelope, an animal prized like the deer not only for its flesh but also for its hide, antlers, and bones--all of which yielded useful materials.

Women contributed significantly to Plateau subsistence through their digging and processessing activities. The Plateau women had a thorough knowledge of edible roots and bulbs. Following rites to acknowledge their relationship to nature and appreciation for the bountiful crops, they went with their digging sticks and hemp root bags to harvest camas, bitter root, biscuit root (cous), wild celery, Canby's desert parsley, Indian carrot and--in the forests--the black lichen hanging in the conifers. These and other plant resources diversified their families' diets and provided important sources of minerals and vitamins (Hilty et al. 1972).

Resource use followed a seasonal calendar. Much of the year--for perhaps as much as seven months--the people resided in permanent villages, most of them on old riverine terraces adjacent to the primary streams. They selected these sites for the convenience to fisheries, root areas, and the milder climates of lower elevation. During the months of the long moons when the winds and freezing weather held fast in their land, the elders shared oral tales and the tribes engaged in ritual feasts, dances, and renewal. In the spring and early summer the villages began to disperse, traveling to favored trade or quarry sites, visiting friends, or harvesting foods. Digging roots required considerable labor;

so did cutting and drying fish, picking berries, and collecting seeds. By late summer families had moved to the cooler high elevations to pick huckleberries and hunt deer. As winter closed in, they returned to their ages-old villages along the rivers (Haines 1991:155-163).

The Plateau Indians possessed different types of shelters by the early nineteenth century. In some places the traditional and highly functional earth lodge, a largely subterranean structure constructed with poles laid in a circle and covered over with earth with a central entry hole and ladder, persisted for hundreds of years. This structure, when built at a site with good drainage, provided excellent protection from cold winter storms and snows. In the western part of the Plateau the Indians framed pole buildings and covered them with cedar planks much like the Indians of the western Gorge and beyond the Cascade Range to the west. More common, however, was the mat-covered lodge. This structure could stand as a solitary tepee or it might be conjoined with several others to make a multi-family lodge with a series of fire hearths down its central axis (Haines 1991:9-10; Spier and Sapir 1930: 202-205). In the eastern part of the Plateau the tribes with Plains connections constructed buffalo-hide covered tepees. And in the area of the northern Great Basin the brush-surround and rock shelter protected the Northern Paiute, Shoshoni-Bannock, and others from the elements (Trenholm and Carley 1964).

The Indians of the Columbia Basin possessed time-tested lifeways. They knew their land through thousands of years of residency. Their oral literature affirmed that genesis occurred nearby and that the world was ordered by right behaviors. The sweat lodge, prayers, "first fruits" ceremonies, and respect for the elders and tribal traditions--these maintained the orderly succession from generation to generation. And as summer followed winter, the turn of their world followed in almost endless progression. That orderly existence, however, confronted hints of

change in the eighteenth century. The arrival of horses, a scatter of trade goods, and strange, deathly illnesses like smallpox were a portent of things to come. A well-ordered world stood on the edge of major disruption.

2. Exploration and Fur Trade

The interior of the Pacific Northwest remained "terra incognita" for decades after European and American maritime explorers gave shape to the coastline in their charts and logs. In the mid-1770s the Spanish, anxious to discover the extent of Russian penetration of the Northwest Coast from their stations in Alaska, dispatched explorers to examine the shore. Capt. James Cook of England, Comte de Laperouse of France, Alejandro Malaspina of Spain, and Capt. George Vancouver of England each directed subsequent voyages of discovery to the region. By 1820 an estimated 450 vessels had sailed the coastal waters; most of them carrying crews engaged in the lucrative fur trade with the region's native population (Cook 1973:Appendix E).

In spite of these efforts, the compilation of detailed information about the shoreline and its resources, and publication of reports by Cook and Vancouver in handsome, illustrated editions in 1784 and 1798, the interior of the region remained wholly an Indian land. With the purchase of Louisiana Territory in 1803 from France, however, the United States was ready to examine the interior of North America. President Thomas Jefferson had several times in the eighteenth century attempted to line up explorers--George Rogers Clark, John Ledyard, Dr. Moses Marshall, and Andre Michaux--to cross the continent. In 1803 as president he was in a position to translate that dream into reality. He turned to his secretary, Meriwether Lewis, and to William Clark, a former Army comrade of Lewis's, to lead a contingent via the Missouri River to the mouth of the Columbia (Moulton 1986-91[2]:1-2).

Jefferson, a man of the Enlightenment and active member of the American Philosophical Society, gave Lewis a letter of detailed instructions on the mission. The party was to explore a route for commerce in so far as possible by water connections across the

American West. The men were to open diplomatic relations with the Indian tribes. They were to map the land, taking readings of longitude and latitude at principal stream confluences and points of remarkable geographical nature. They were to collect natural history specimens--both flora and fauna--and make copious notes on the seasons of blooming, production of seeds, and release of leaves of plants. They were to observe the weather, record temperatures of hot springs, note mineral appearances, and assess the potential of the soil. As would-be ethnographers they were to record information on native lifeways and to record Indian words against a prescribed list of terms (DeVoto 1953:481-487).

In all of these things the Lewis & Clark expedition secured success. Following an arduous portage of the Great Falls of the Missouri, the party entered the Pacific Northwest via Lemhi Pass. The men cut through a section of the Bitterroot Valley, ascended Lolo Creek, found the Lochsa drainage impassable, but followed the Indian route via the Lolo Trail until they emerged in the Clearwater country of central Idaho. At Canoe Camp near Orofino they constructed pirogues and journeyed by water down the Snake and Columbia rivers to spend the winter of 1805-06 at Fort Clatsop near the Pacific Ocean.

The Lewis and Clark journals included an almost encyclopedic set of observations about the route they travelled. They described Indians villages, dress, and, in so far as they could communicate, elements of the lifeways. William Clark on September 5, 1805, described his first encounter with the "*Cho pun-nish* or *Pierced Noses*" [the Nez Perce]:

> They are darker than the <flat heads> Tushapaws <I have seen> Their dress Similar, with more beads white & blue principally, brass 7 Copper in different forms, Sheels and ware their haire in the Same way. they are large Portley men Small women & handsome fetued [featured] (Moulton 1986-91[5]:222).

The party observed the vast quantities of salmon harvested and wind-dried by the tribes at Celilo Falls and Five Mile Rapids. William Clark noted on October 22, 1805: ". . . passed at the uper end of the portage 17 lodges of Indians, great numbers of baskets of Pounded fish on the rocks Islands & near their Lodges thos are neetly pounded & put in verry new baskets of about 90 or 100 pounds wight" (Moulton 1986-91[5]:320). On their return from the coast in April, 1806, Meriwether Lewis observed the "first salmon" ceremony at The Dalles:

> there was great joy with the natives last night in consequence of the arrival of the salmon; one of those fish was caught; this was the harbinger of good news to them. they informed us that these fish would arrive in great quantities in the course of about 5 days. this fish was dressed and being divided into small pieces was given to each child in the village. this custom is founded in a supersticious opinon that it will hasten the arrival of the salmon [Moulton 1986-91[7]:142).

The explorations of Lewis and Clark proved of singular significance to the interior of the Pacific Northwest. The explorers returned to St. Louis in 1806 to a nation eager to learn of their discoveries. Fur seekers soon pressed up the Missouri to engage in two decades of prosperous trade in the Rockies. Readers turned to the journals of Patrick Gass and Joseph Whitehouse and, with the publication of the Lewis and Clark diaries in two volumes in 1814, secured an even more detailed account of the lands and resources they had explored. The expedition also extended the claims of the United States to sovereignty in the Pacific Northwest. The expedition was the first of Euroamericans to penetrate the region and it was a military outfit financed largely by the government of the United States. The labors of this exploring party paid off handsomely when the United States faced down Great Britain in the negotiations in 1846 over the Oregon Treaty. The Lewis & Clark

expedition was a trump card played by the United States in the game of national dominion.

The scientific achievements produced an even more impressive tally. Lewis and Clark's observations created an initial base of ethnographic data on dozens of Indian bands and tribes. They mapped the route they traveled and discovered that the Columbia was a "mighty continental river with a vast interior drainage." The explorers made numerous discoveries of fauna and noted their behavior and habits. They also brought back more than 200 herbarium specimens and discovered over 170 plants not previously known to science from their travels in the Columbia watershed. Paul Cutright assessed their numerous contributions and concluded: "The journey stands, incomparably, as the transcendent achievement of its kind in this hemisphere, if not in the entire world. Whereas Louisiana Territory had been 'an area of rumor, guess, and fantasy, now that Lewis and Clark had revealed it, it was a focus of reality (Cutright 1969:393-397).

Fur trappers and traders moved steadily westward, depleting the fur-bearing animals of successive frontiers to create ecological disruption and momentous impacts on native populations. That process moved to the region west of the Rockies in the first decade of the nineteenth century. British explorers Simon Fraser and David Thompson followed the footsteps and canoe routes of Alexander Mackenzie, the first man to have crossed North American by land in 1792, and extended the land-based fur trade to the upper Columbia watershed of British Columbia. Between 1807 and 1811 the British fur seekers established a series of depots and trading sites in northern Idaho, western Montana, northeastern Washington, and eastern British Columbia. David Thompson of the North West Company crossed the Rockies via Athabaska Pass and descended the Columbia to build a fort in 1811 on the Spokane River. In July, Thompson canoed on down the Columbia to its mouth only to

discover that Americans working for John Jacob Astor had already established a fur trade post on the south shore of the river (Skinner 1920:133-135).

Astor was a visionary. A German-born immigrant, he prospered in the fur trade as a wholesaler. Hearing of the reports of Lewis & Clark, Astor formed the Pacific Fur Company and in 1810 dispatched employees by land and by sea to establish Fort Astor on the northwest Oregon coast to open direct trade with China. Astor's overland party under Wilson Price Hunt departed from St. Louis in September, 1810, to commence an arduous continental trek. They crossed the Rockies at Union Pass to the Green River and pressed on to the upper reaches of the Snake where, with newly-made canoes, they set out by water for the Pacific. In ten days they covered some 360 miles only to find Shoshone and Twin Falls and the necessity of abandoning their river descent. In December, 1811, the party passed through northeastern Oregon, pressed on across the Columbia Plateau, and in February, 1812 arrived at Fort Astoria at the river's mouth (Skinner 1920:181-183).

For a time the Pacific Fur Company and the North West Company competed for the harvest of beaver, marten, fox, and other mammal pelts in the Columbia watershed. David Stuart, an Astor employee, established Fort Okanogan in 1811 at the confluence of the Okanogan with the Columbia. In 1813 Astor's partners-in-the-field at Fort Astoria sold out the interests of the Pacific Fur Company in fear that the British Navy would cross into the Columbia and seize their station as a prize of the War of 1812-14 then raging between the United States and Great Britain. In 1818 the North West Company constructed Fort Nez Perces, subsequently Fort Walla Walla, a post a few miles below the junction of the Snake and Columbia rivers and located at the mouth of the Walla Walla. In 1821 the British parliament forcibly merged the North West Company into its rival, the Hudson's Bay Company. For the next twenty-

five years that firm dominated the fur trade in the Pacific Northwest.

Table 1. Fur Trade Posts, Columbia Basin, 1810-1836

Fur Trade Post	Company	Date Established
Kootenay House	North West Co.	1810
Flathead House	North West Co.	1810
Ft. Okanogan	Pacific Fur Co.	1811
Ft. Nez Perces	North West Co.	1818
Ft. Colvile	Hudson's Bay Co.	
Ft. Hall	Nathaniel Wyeth	1834
Ft. Boise	Hudson's Bay Co.	1835

(Stern 1993:6-7)

Subsequent to 1821 the fur trade in the interior of the Pacific Northwest was almost exclusively the monopoly of the Hudson's Bay Company. The firm operated from its headquarters at Fort Vancouver on the Columbia estuary near the mouth of the Willamette River. It dispatched heavily laden bateaux with trade goods to its posts in the interior. These, in turn, sent down the river the harvest of furs, many of them purchased from local Indians. The Company also operated an extensive brigade system (Rich 1959:448, 570-578). In five expeditions during the 1820s Peter Skene Ogden carried out the assignment to exploit the furs of the Snake River as well as the Great Basin to the south. Ogden's far flung travels took him through eastern and south-central Oregon as well as into northern California. The company's strategy was to trap the fur-bearing animals of the Snake to extinction so that if Americans crossed the Rockies they would become so frustrated at the lack of return for their travels and labors that they would turn back. In this Ogden and his employers largely succeeded (Cline 1974:69).

The matrix of trade in the Columbia Basin depended heavily upon

the participation of the Indian population. The company found an already extensive and thriving network of exchange which extended for centuries into the prehistoric past. The shipment of dried salmon, obsidian, and bear grass down the Columbia and other prized items brought in exchange decorative shells, wappato roots, whale oil, smelt and other coastal commodities. The fur traders introduced glass beads, woolen blankets, metal tools, firearms, cotton cloth, and other items which became new commodities in the economic system. Their goal was to acquire furs. Sometimes they purchased these directly from Native Americans who came to their posts. Other times, they secured foodstuffs, horses, and laborers from the Plateau Indian communities to outfit the brigades which might into the field for several months to trap and trade for furs (Stern 1993:19-28).

The Hudson's Bay Company in the 1830s inaugurated a program of post self-sufficiency. In so far as possible each post was to engage in agricultural pursuits--farming and stockraising--to sustain its employees and to assist brigades outfitting for work in the surrounding countryside. East of the Cascades these ventures resulted in the initial introduction of agriculture. Fort Nez Perces at the mouth of the Walla Walla was representative of these enterprises. In 1835 the post had twelve head of cattle, seventy-five horses, and six pigs; in 1846 the livestock included thirty-six cattle, 115 horses, and thirty-eight pigs. By the early 1840s Pierre Pambrun, the trader, tilled 50 acres along the Walla Walla River; in 1845 he had twelve acres in vegetables and in 1846 opened another thirty acres some twenty miles from the fort (Gibson 1985:52-54).

Fort Okanogan, an important station for monitoring and supporting the riverine transportation system of the Hudson's Bay Company, stood at the head of bateau navigation on the Columbia. In 1845 it had seven cultivated acres and was noted for its production of fine potatoes. Fort Boise had two tilled acres, twenty-seven cattle, and seventeen horses in

1846. Fort Hall, founded by Nathaniel Wyeth in 1834, passed to the Hudson's Bay Company which began agriculture in 1836. By 1845 Fort Hall had five tilled acres, 95 cattle and 171 horses. 'These efforts and those at Fort Boise," concluded James Gibson, "enabled the two posts not only to feed their own personnel but also to succour American migrants on the Oregon Trail in the first half of the 1840's" (Gibson 1985:58-59).

American entrepreneurs attempted to break into the monopoly of the North West Company and Hudson's Bay Company but with little success. In 1828 Jedediah Smith entered western Oregon by traveling along the margins of the Pacific Ocean from northwestern California. His party suffered a crushing defeat at the hands of the Lower Umpqua Indians. Smith lost eleven of his men and sold what was salvaged of his furs to the Hudson's Bay Company (Sullivan 1934:112-135). In 1832 Nathaniel Wyeth of Boston established Fort William on Sauvie Island at the mouth of the Willamette River and in 1834 established Fort Hall on the upper Snake. In spite of his investments, energy, and tenacity, Wyeth was unable to prosper. He explored the Deschutes River and traded with Indians but sold out in 1835 to the Hudson's Bay Company (Wyeth 1899).

An unexpected byproduct of the fur trade in the interior of the Pacific Northwest was the opportunity for collectors of natural history specimens to travel to remote regions with the brigades and the opportunity to secure supplies and support from the Hudson's Bay Company posts. David Douglas, the Scottish botanist, arrived in the Pacific Northwest in 1825 under the auspices of the Royal Horticultural Society of London. Between March and August, 1826, Douglas traveled in the Columbia Basin, ascending the river to Kettle Falls. Douglas collected specimens in the upper Columbia and then located at Fort Nez Perces. In June he explored the Blue Mountains; in July he went to

the Clearwater River. In August he crossed overland to the Spokane and then descended the Columbia some 800 miles to Fort Vancouver. His far-reaching travels yielded a number of specimens, though in an accident in crossing a river in August Douglas lost his seed collection and some of his notebooks (McKelvey 1991:299-318).

Douglas returned from England in 1830 and again traveled to Fort Nez Perces on the Walla Walla River and carried out further work along the main stem of the Columbia in 1833. A solitary man of vigorous fortitude and dedication to collecting plants and observations of nature, Douglas revealed a bit of his character in a letter in March, 1833:

> To console myself for the want of friends of a kindred feeling in this distant land, for an exchange of sympathy or advice, I vary my amusements; by day it is a barren place that does not afford me a blade of grass . . . during the stillness of a cloudless night . . . localities are determined, altitudes measured, the climate . . . analyzed. Thank God my heart feels gladness in these operations . . . (McKelvey 1991:424).

Other naturalists worked in the Columbia Basin in the 1830s as well. They included Nathaniel J. Wyeth who collected specimens in 1832 for his friend Thomas Nuttall of Harvard University. In 1834 Nuttall and John Kirk Townsend accompanied Wyeth on his overland journey. Townsend, an able shot and powerful writer, completed his journey with so many mammal and bird specimens that he sold his duplicates to John J. Audubon. Subsequently Audubon used these for illustrations in his ***Quadrupeds of North America*** and ***Birds of North America.*** Townsend's narrative--an unfolding natural history of his route across what was to become the Oregon Trail--appeared as ***Narrative of a Journey Across the Rocky Mountains to the Columbia River.*** The volume included appendices listing the scientific observations (Townsend 1839). In 1837 John McLeod of the Hudson's Bay Company collected botanical

specimens in the Snake watershed for Dr. William F. Tolmie (McKelvey 1991:389). Notice of these plants appeared in ***The Botany of Captain Beechey's Voyage*** (Hooker and Walker-Arnott 1841).

In the 1840s several other naturalists explored and reported on the flora and fauna of the Columbia Basin. In 1841 a detachment of the U.S. South Seas Surveying and Exploring Expedition ascended the Columbia River to the mouth of the Walla Walla. The explorations produced a detailed map of the route as well as botanical work of William Dunlop Brackenridge who traveled from Fort Nisqually to Fort Colvile. In June and July, Brackenridge explored the Columbia Plateau south to the Spalding Mission at Lapwai, Idaho, on the Clearwater, then to Fort Nez Perces. His party returned to Puget Sound via Naches Pass. The explorations involved a trip of nearly 1,000 miles and resulted in an extensive botanical collection (Brackenridge 1930-31).

In 1843 Karl Andreas Geyer, a German botanist, came to the Pacific Northwest to collect specimens for William Jackson Hooker. Geyer traveled west via South Pass to Fort Hall. He turned north to western Montana and to Fort Colvile and Lake Coeur D'Alene. He then traveled southeastward to the junction of the Clearwater and Snake rivers, to Fort Walla Walla, and finally in 1844 to Fort Vancouver. Geyer's collections ran to nearly 10,000 specimens as well as seeds of about 350 species. By the mid-twentieth century thirteen different American plants were named in his honor (McKelvey 1991:773-788). Also in 1843 John C. Fremont brought his crew of Topographical Engineers west via the Oregon Trail to The Dalles. Fremont then turned his party south along the eastern flank of the Cascades to enter the Great Basin. These explorations--an extension of Fremont's reconnaissance to South Pass in 1842--received considerable attention with the publication of his travel diaries, route maps, and illustrative plates by the Government Printing Office (Fremont 1845).

Joseph Burke, a botanical collector who worked in South Africa between 1839 and 1842, entered the Pacific Northwest by descending the Columbia River from Canada. He located at Fort Hall in eastern Idaho and worked from there between November, 1844, and August, 1846. Burke's far-flung travels included a transit of the Applegate Trail in 1846 when he joined the first emigrant train to turn over that route at Fort Hall. In spite of his energetic labors and travels, Burke's botanical contributions were scanty. The Royal Botanic Gardens at Kew had no list of his specimens. His seeds produced a solitary juniper which grew to a height of five feet in 1884 (McKelvey 1991:794-817).

In 1853 the U.S. Army launched a fairly comprehensive examination of the Pacific Northwest as part of the Pacific Railroad Surveys. Funded by Congress to find five alternate routes for a transcontinental railroad, the surveys also included the examination of potential north-south connectors on either flank of the Cascade Range. Isaac Ingalls Stevens, a West Point graduate, directed the surveys between the 47th and the 49th parallels--a tract extending from the Great Lakes west to Puget Sound. As Stevens' party moved westward another, directed by Lt. George B. McClellan, examined potential passes over the Cascades in Washington Territory. In Oregon, a detachment head by Lt. George Abbot and Lt. Robert Stockton Williamson mounted a comparable survey. Attached to each of the western crews were artists and naturalists. These included John Strong Newberry, James Graham Cooper, Dr. George Suckley, and George Gibbs. Their observations covered the flora, fauna, paleontology, and ethnology of the region. The detailed scientific and engineering reports--including data on rainfall and temperatures as well as dozens of hand-colored plates illustrating the geography and remarkable specimens--filled two volumes of the dozen in the ***Pacific Railroad Reports*** (Goetzmann 1966:285-286, 290-291).

From the travels of the Lewis & Clark expedition in 1805-06 to the descriptive, scientific studies of the Pacific Railroad surveyors the Euroamerican understanding of the Columbia Basin grew dramatically. The fur traders explored the land, introduced major changes into the cultures of the Native Americans, and, in a number of instances set the course of highly consequential ecological changes. The programs of economic self-sufficiency at the fur trading posts tested the potentials for agriculture and proved that the interior held remarkable promise for farming and stockraising. Natural historians--both botanists and zoologists--examined the region's flora and fauna. Their collections steadily made their way into the scientific literature of the nineteenth century and began to give shape to the understanding of biotic provinces and patterns of species distribution. By the mid-1800s the Columbia Basin was a reasonably known region, a place dominated by the ages-old native cultures but a setting latent with prospects of change.

3. Missions

While the fur trade and exploration contributed significantly between 1811 and 1846 to changes in the clothing, technology, and trade of Indians of the Columbia watershed, the advent of Christian missions proved ultimately of greater consequence. The impacts were not so much in changing the native religious practices but in the larger forces unleashed by missionaries in the region. Missionaries were harbingers of Euroamerican settlement and lifeways. Unlike the transient and singularly-focused trappers, traders, and explorers, they had more consequential objectives.

In the decade of the 1830s three different mission programs reached out to the Indians of the interior of the Pacific Northwest. These efforts were the result of more than 30 years of intense religious activity in the eastern United States. That movement, often referred to as the Second Great Awakening, fostered personal piety, a sense of evangelical responsibility, and sectarian competition in "winning" souls to the Christian faith. The development of both home and foreign mission societies by several denominations in the 1810s and the founding of the American Bible Society in 1816 set the stage for expanding Christian teachings. These organizations also confirmed the mission field was competitive and that unique persuasions and interpretations of the religious experience might penetrate distant lands.

Rev. Jason Lee in 1834 led a contingent of four American men across the Oregon Trail in company with the fur seeker Nathaniel Wyeth of Boston. Lee's Methodist party came to establish a chain of protestant stations among the natives. Although Lee originally planned to work on the Columbia Plateau, he accepted the advice of Dr. John McLoughlin of the Hudson's Bay Company and established his initial mission at the southern margin of French Prairie in the Willamette Valley (Brosnan

1932:70-83; Hulbert and Hulbert 1935:134-184). With additional capital and reinforcements in 1838, however, Lee expanded his field. Among the new stations was a site a few miles west of the great Indian fishery at Five Mile Rapids and Celilo Falls. Lee's nephew, Daniel Lee, and Henry W. Perkins, established at The Dalles the Wascopam Mission. For the next nine years a succession of Methodist ministers and lay people labored to sustain themselves through agriculture and to preach to the none-too-interested local natives. The missionaries introduced cattle to the area in September, 1838, and the following year planted their first garden (Brosnan 1932:166-168). "This place is nearly one hundred miles from civilization," noted George Gary in 1844, "and here [reside] but two families, the preacher and farmer. The supplies of the farm must be had for the support of the preacher and the minister wants the aid and society of the farmer . . . Gary 1923:168).

In 1835 Rev. Samuel Parker and Dr. Marcus Whitman made a reconnaissance westward along the Oregon Trail to examine the prospects for missions for the American Board of Commissioners for Foreign Missions (ABCFM) in the Oregon Country. Whitman turned back to recruit personnel; Parker continued on to western Oregon and wrote a widely read travel narrative, *Journal of an Exploring Tour Beyond the Rocky Mountains* (1838). Parker's book provided a detailed discussion of the land, resources, and Native Americans. He ascended the Columbia in the spring of 1836 to explore the lower Snake, Clearwater, and Spokane watersheds before descending the Columbia to the sea. While at Fort Colville, near Kettle Falls, Parker noted: "The winter and summer grains, together with garden vegetables, are cultivated with success and in profusion." He included a "Meteorological Table" from October 4, 1835, to May 15, 1836, with specific data on temperatures throughout the day and weather at sunrise and sunset. He provided three Indian vocabularies, maps, and notes on his return sea voyage via Hawaii.

Parker's book was one of several travel narratives written in the 1830s which gave precise information about the prospects of Oregon Territory (Parker 1838).

Whitman returned westward in 1836. He brought his wife, Narcissa, and fellow workers Henry and Eliza Spalding. The transit of these two women across the Oregon Trail proved that the vast wilderness beyond the Mississippi might be subject to emigration by families, a consideration eagerly seized upon by residents along the American frontier (Drury 1963-66[1]:31-33;[3]:307-318). The Whitmans settled at Waiilatpu on the Walla Walla River nearly 25 miles upstream from its confluence with the Columbia. The Spaldings chose a site at Lapwai on the Clearwater River near the base of the Bitterroot Mountains in north-central Idaho. Within a few years the American Board of Commissioners for Foreign Missions, an ecumenical mission agency supported by the Presbyterian, Dutch Reformed, and Congregational denominations, established additional missions at Tshimakain near Spokane and Kamiah, among the Nez Perce farther up the Clearwater River in Idaho (Drury 1937:203).

The ABCFM missions became a point of determined efforts for cultural change. These missionaries embraced the idea that "civilization" was a precursor to conversion to Christianity. They defined "civilization" narrowly. The Indians were to become sedentary, English-speaking agrarians who wore Euroamerican clothing, respected privacy, owned private property, and observed the sanctity of the sabbath. Eliza Hart Spalding's diary of November 29, 1836, penned at Lapwai, Idaho, on her arrival at the mission site, reflected the point of view:

> we would humbly hope, about to enter upon the glorious, blessed, but responsible work of laboring to introduce the blessings of that Gospel which brings life & immortality to light, among this benighted people, who have long felt that they were sitting in darkness & perishing for lack of knowledge. May we have

> heavenly wisdom & grace, to labor successfully for the promotion of our Master's cause in this dark portion of His vineyard (Drury 1963-66[1]:197-198).

Thus these missionaries sought to demonstrate the viability of a settled, agricultural lifeway and the benefits of Christian religious commitment. The program meant that each mission--in the lands of the Spokane, Cayuse, and Nez Perce--was a testing place for an agrarian economy which included production of cereal crops, vegetables, livestock, and fruit (Drury 1963-66[1]:141, 200, 212; [2]:116).

In the 1830s Catholic clerics in Quebec laid plans to reach out to a population of over 500 French-Canadians who were, at least, nominally Catholic and working in the Columbia watershed for the Hudson's Bay Company. Of particular concern was the growing population of children born to these men and native women. Few had participated in the rites of marriage or baptism. The opportunities beckoned and thus the Bishop of Quebec dispatched Francis Norbert Blanchet and Modeste Demers to journey overland in 1838 with a supply brigade to the fur posts and establish missions in the watershed of the Columbia River. The priests founded initial stations in western Oregon and Washington. Two years later the Jesuits dispatched Pierre Jean De Smet to examine prospects for missions on the western flanks of the Rockies. Following his explorations, De Smet returned in 1841 with Gregory Mengarini and Nicholas Point and three laymen 'brothers" to establish the Mission of the Sacred Heart among the Coeur d'Alenes, St. Mary's Mission in the Bitterroot Valley of Montana among the Flathead Indians, and St. Ignatius in 1844 among the Spokanes. In time the Jesuits also founded the missions of St. Paul at Kettle Falls and St. Mary's at Omak (O'Hara 1925; Point 1967:6-7; Raufer 1966:36-59).

Several Oblate priests came to the Columbia Plateau in 1847 with

Father A. M. A. Blanchet to establish missions among the Yakima, Cayuse, Umatilla, and Nez Perce. One, Father Jean Baptiste Abraham Brouillet, founded the Mission of St. Ann among the Umatilla Indians. His mission was in direct competition to the Whitmans who were murdered along with nine others at their station two days subsequent to Brouillet's arrival. Learning of this disaster, Brouillet hurried to their station and buried the bodies of those who perished on that fatal November morning. Twice burned during the subsequent Indian wars, Brouillet's mission nevertheless survived. The priests also established missions at Frenchtown on the Walla Walla River and St. Rose of the Cayouse and St. Rose of Lima. These stations were to serve the Cayuse, Umatilla, and Nez Perce (Munnick and Munnick 1989:v-xii).

Thus in a little over fifteen years three, competing mission programs entered the lives of Indians of the Columbia Basin. While each differed in its theology and method, all represented the imposition of new ideas and lifeways. Especially significant were the protestant efforts of the Methodist and American Board personnel. They approached conversion with a twofold program. First, they envisioned acculturation--the shift of Native Americans from a nomadic fishing and hunting culture to a sedentary, agricultural life style. Second, they envisioned, as a consequence of having attained a "civilized" state, the embrace of their particular interpretations of Christianity. The consequences of this program were several (Thompson 1969).

The missionaries--in part to sustain themselves and also to demonstrate the value of a changed lifeway--embarked on ambitious and largely successful agricultural programs. They introduced farming, especially production of cereal crops and fruit, as well as livestock husbandry. While the fur companies had made nominal efforts in these areas at Fort Walla Walla, Fort Colville, and Fort Boise, the missionaries confirmed clearly the agricultural potentials of the interior region of the

Pacific Northwest. They increased their acreages, harvested grains, hay, and fruit, and multiplied the numbers of their livestock. Their success they broadcast in letters home, in correspondence with eastern newspapers, and in preaching missions to the East to raise money to sustain and expand their missions. In May, 1841, Rev. Elkanah Walker who resided in the Spokane watershed wrote: "Took up the team & harrowed the ground & planted my potatoes." A few days later on June 7 he noted: "Finished ploughing & sewing wheat & corn" (Drury 1976:148-149). The missionaries served as exceedingly important vehicles to test and subsequently to publicize the agricultural potentials of the Columbia watershed.

The Catholics tallied hundreds and ultimately several thousand entries in their mission and parish registers. Patient, sworn to poverty, preaching with interesting elements of ceremony--candles, incense, icons, and Latin prayers, possessing ties to the fur trapper community through the nominally Catholic French-Canadians, and skilled as linguists, the priests largely accomplished their goals. In time, with schools staffed by female teaching orders, they left an enduring imprint on the religious persuasion of Columbia Plateau Indians. This tally is confirmed in *Catholic Church Records of the Pacific Northwest*, 7 vols., 1971-89.

In terms of conversions the protestant missions fared poorly. The Indians expressed little interest in abandoning their traditional ways, especially their spirit powers or the roles of shamans. When matters of monogamy arose, the Indians argued justifiably that their practice of plural marriages to take care of widows and other observances were essential for the welfare of their people. The cultural gulf between the missionaries and their intended targets were significant and, ultimately, highly consequential. While the missionaries envisioned an imminent "second coming" and judgment, so too did the Native Americans. The prophetic traditions of the eighteenth century surfaced again in the

latter nineteenth century with the teachings of Smohallah and Skolaskin. The stage was set for conflicting religious visions of the future and, even more fundamentally, almost wholly divergent attitudes toward the land and the place of humans in it. Missions did not resolve these differences; they exacerbated them (Miller 1985:89-116; Ruby and Brown 1989).

In 1855 the Church of Jesus Christ Latter Day Saints based in Salt Lake City, Utah, established Fort Limhi on the Salmon River in Idaho. Twenty-seven missionaries came to this field but, as troubles mounted between the Mormons and the United States Army in Utah, the church felt compelled to withdraw. The Mormons abandoned this mission in 1858 (Nash 1967:22-31).

The protestant missionaries had proven that women could cross the continent, that children could survive on this distant frontier, and that the region had undreamed of potentials for expanded American settlement. The Catholic missionaries demonstrated that patience and accommodation as well as linguistic skill and a solid base of support could, in time, lead to permanent parishes in the interior of the Pacific Northwest. In these regards the missions to the Indians of the Columbia Plateau--especially the efforts of the Americans--bulked large in the unfolding epic of overland migration of the mid-nineteenth century.

4. Overland Emigration

In the decade of the 1840s restlessness seized a generation of Americans. Hundreds, then thousands decided to leave their homes and seek new beginnings on the distant Pacific Slope. Complex forces of history and personal motivations drove this epic migration. Some factors of national scope shaped the rapid expansion of American settlement westward; others linked to special events such as the discovery in 1848 of gold in California. The mid years of the nineteenth century were when Americans charted a new direction for the Pacific Northwest. Overland emigration became the fulcrum upon which turned an entirely new human impact upon the land and resources of the empire of the Columbia.

The words "manifest destiny," coined by journalist John L. O'Sullivan in 1845, captured part of what was underway on the eve of massive migration westward. O'Sullivan wrote that Americans sensed that there appeared a purpose for their country to expand from sea to sea (Merk 1963:24-60). No nation, argued O'Sullivan, had the right to thwart American policy, power, or limit "the fulfillment of our manifest destiny to overspread the continent allotted by Providence for the free development of our yearly multiplying millions . . . (O'Sullivan 1845:5-10).

The idea of a continental destiny had received ardent nurturing in the public arena for more than two decades. In the forefront was Senator Thomas Hart Benton of Missouri and his promotion of the settlement of the West. He thundered forth in speeches about a "passage to India," a "channel of Asiatic commerce," and the inexorable course toward a continental nation (Smith 1975:22-34). He helped finance at public expense the explorations of the Oregon Trail in 1842 and 1843 led by his son-in-law, Lt. John C. Fremont, and with Sen. Lewis Linn of Missouri, introduced a series of bills offering free land to those who

would settle in Oregon. Benton's daughter, Jessie, skillfully rewrote her husband's diaries into narratives of adventure and celebration of the resources of the distant West (Herr 1987:103-113). When coupled with the detailed maps of Charles Preuss--including a special, seven-section map of the Oregon Trail based on the reconnaissance of 1843--an American public responded with enthusiasm. The Fremont narratives and accompanying maps were printed by the Government Printing Office and thus widely available (Fremont 1845).

Technology also played a part in American thinking in the 1840s. The rapid proliferation of steamboats, railroads, and canal systems confirmed that lands and resources once distant could be drawn into the nation's economy. Further, people moving to the frontier could anticipate that with appropriate investment and energy they, too, could become linked to established communities and trade. Asa Whitney, a New York merchant who made a fortune in the Orient, proposed to Congress in 1845 a land grant sixty miles wide across the continent as a subsidy to investors who would build a transcontinental railroad. Whitney's dreams and ardent promotions found fertile soil and, by 1848, led to the conversion of Senator Benton, among others, to endorse a Pacific railroad to be constructed by the federal government (Smith 1975:30-31). Samuel F. B. Morse's invention of the telegraph and its use by 1844 in sending messages over vast distances further engaged the imagination. O'Sullivan extolled the potentials of the "magnetic telegraph" and envisioned a communications system linking Astoria at the mouth of the Columbia and San Francisco with the Eastern Seaboard (O'Sullivan 1845:10).

Political factors played a part, too. Andrew Jackson, president from 1828 to 1836, was both an ardent nationalist and an expansionist. He dispatched Lt. William Slacum in 1836 to examine harbors from San Diego to Puget Sound as well as to assess the condition of the

Willamette Valley. Jackson's administration also supported the major outlay of public funds to underwrite the U. S. South Seas Surveying and Exploring Expedition under Lt. Charles Wilkes. The five vessels and crew of scientists in this naval party came to the Pacific Northwest in 1841. Exploring parties ascended and mapped the Columbia as far east as Fort Walla Walla. Botanists, geologists, artists, a linguist, and cartographers secured detailed information about the region's resources. The scientists and naval officers released this data in five volumes and an atlas in 1845, a volume on ethnology and philology in 1847, and subsequent folios containing hand-colored illustrations of the flora and fauna encountered during the explorations (Hale 1847; Wilkes 1845). Many were aware of Jackson's interest in Texas and heralded the annexation of the Lone Star Republic in 1845 as carrying out the dying wishes of the late President Jackson.

The political campaign and election of James Knox Polk as president in 1844 proved of paramount importance in shaping political interest in the Oregon Country. Polk had a simple agenda: creation of a continental nation. He outrageously called for the "reannexation of Oregon," sought the presidency under the slogan "fifty-four forty or fight" (suggesting that the boundary of southeast Alaska was the actual reach of American claims), and brazenly carried out his agendas when elected. Polk brought Great Britain to the Oregon Treaty (1846) by giving that nation notice that the United States intended to terminate the agreement of "joint occupancy" in the Pacific Northwest. Beset with internal problems and war-weary, the British conceded the extension of the 49th parallel to the Pacific Ocean as the new boundary west of the Rockies. Polk also declared that Mexican soldiers had "invaded our territory and shed the blood of our fellow-citizens on our own soil," a dubious contention of American ownership of lands south of the Nueces River in Texas (Richardson 1896[5]:2287-2293). Congress responded with

a declaration of war and the United States invaded Mexico, seized one-third of her lands, and forced through the Treaty of Guadelupe Hidalgo (1848) to acquire California, Arizona, New Mexico, and parts of Colorado, Utah, and Nevada. His goals accomplished, Polk stepped down and did not seek a second term.

Tens of thousands of Americans residing on the frontier of the Mississippi and Missouri valleys had special reasons for considering movement to Oregon. The Panic of 1837 brought an economic downturn which beset the region for a decade. Many who lived there were first land speculators and second, farmers. Unable to sell out their improvements and get a new start, they responded eagerly to the bills of Senator Lewis Linn to provide for "donation" lands to those who emigrated to Oregon. Should such laws pass, they could afford to take but a modest return for their farms and buildings and begin, anew, in the Willamette Valley. There they might plat towns, run for political office, or find unexpected fame or fortune (Johansen and Gates 1957:232-233, 236-237).

Flooding and health were also factors. The late 1830s brought repeated flooding to the bottomlands along the Missouri and Mississippi rivers. Farmers waited for weeks for the waters to subside, only to find their fields covered with sand and the summer beset with malarial fevers spawned by the infestations of mosquitoes. Cursing the ague or "tertian fever," many read with interest about distant Oregon where neither floods nor pestilence seemed to occur or take a toll (Bowen 1978:18-19).

Americans possessed a variety of sources providing accurate information about the Oregon Territory. These included John Wyeth's ***Oregon, Or a Short History of a Long Journey from Atlantic to the Region of the Pacific, by Land*** (1833), Washington Irving's ***Astoria*** (1836) and ***The Adventures of Captain Bonneville*** (1837), Samuel Parker's ***Journal of Travels Beyond the Rocky Mountains*** (1838), John Kirk Townsend's

Narrative of a Journey Across the Rocky Mountains to the Columbia River (1839), and the ***Memoir, Historical and Political, of the Northwest Coast of North America*** (1840) compiled by Robert Greenhow and published at the request of Sen. Lewis Linn by the federal government. Thomas J. Farnham's ***Travels in the Great Western Prairies, the Anahuac and Rocky Mountains, and in the Oregon Territory*** (1843) recounted his adventures of explorations in 1839. Additionally, the ***Journals of Lewis and Clark,*** published in two volumes in 1814, the report of William Slacum about his reconnaissance of the Willamette Valley in 1837, published in 1838, and the explorations of the U.S. South Seas Surveying and Exploring Expedition in Oregon Territory in 1841--published with maps, charts, plates, and natural history materials in 1845--provided sound, scientific observations about the land and its resources. These books and reports gave good press to the region. In fact, they celebrated its climate, soil, timber, fish, furs, and prospects in glowing detail.

In addition to scientific reports and travel narratives, guidebooks promoted the Pacific Northwest and provided useful information on the necessary supplies, teams, camping gear, tables of distances, river crossings, and even handy phrases or word lists for opening communication with Native Americans. The guidebooks included P. L. Edwards' ***Sketch of the Oregon Territory, Or, Emigrant's Guide*** (1842), Lansford W. Hastings, ***The Emigrants' Guide, to Oregon and California*** (1845), John M. Shively's ***Route and Distances to Oregon and California*** (1846), Overton Johnson and William Winter's ***Route Across the Rocky Mountains*** (1846), Joel Palmer's ***Journal of Travels over the Rocky Mountains to the Mouth of the Columbia River*** (1847), and J. Quinn Thornton's ***Oregon and California in 1848*** (1849). Each of these authors had journeyed overland to Oregon. They founded their observations and advice on personal experience and gave good press to the Pacific Slope and the Oregon Country in particular (Beckham 1992:8-13).

Palmer's guidebook included his travel diary, detailed observations of Oregon, and special sections-- "Necessary Outfits for Emigrants Traveling to Oregon," a "Table of Distances," and Indian word lists. To this he appended a letter of Rev. Henry H. Spalding summarizing in 1846 his decade of residency on the Clearwater River in Idaho. Spalding wrote prophetically about the Columbia Plateau:

> I once thought the valleys only susceptible of habitation; considering the plains too dry for cultivation. But I am now prepared to say this is not the case. . . . My place is one of the deepest valleys, and consequently the most exposed to the reflection from the high bluffs around, which rise from two to three thousand feet; but my farm, though prepared for irrigation, has remained without it for the last four years. I find the ground becomes more moist by cultivation. Three years ago I raised six hundred bushels of shelled corn from six acres, and good crops of wheat on the same piece the following years, without irrigation. Eight years ago I raised 1500 bushels of potatoes from one acre and a half.

"Every kind of grain or vegetable which I have tried or seen tried in this upper country, grows well," he concluded (Palmer 1847:167).

With the play of these multiple factors, Americans turned their eyes and then cast their lives into the enterprise of emigrating to Oregon. A hardy few set out in 1839, arriving in 1840, and more trickled westward in 1841 and 1842. The year 1843, however, gained notice as the commencement of pioneer travel; that season an estimated 900 men, women, and children and perhaps 3,000 head of livestock crossed the Oregon Trail. Inspired by the feat of Marcus Whitman in dragging the running gear of a wagon as far as Fort Boise in 1836, this crew felled trees and cleared a trace across the Blue Mountains to drag wagons as far as the Columbia River. In 1845 an estimated 3,000 emigrants traveled

to Oregon and by 1850 the non-Indian population of the territory had reached 11,873 (Bowen 1978:22-25; Unruh 1979:118-122).

For the first two decades the new population settled almost exclusively in the valleys along the base of the Western Cascades in Oregon and Washington. The choice of new homes and townsites stemmed from several considerations: proximity to markets and navigable waters, fertility of soil, milling opportunities because of waterpower, logging and lumbering prospects, and the degree to which the relatively open valleys mirrored the Eastern Woodland setting familiar to those who relocated across the continent. The use of purposeful fire ecology by the Native Americans of that region--to harvest tarweed seeds and other foods on the valley floors, to stimulate regeneration of berry crops, and to maintain a relatively open, forest understory with browse for deer and elk--had given thousands of acres in the Nisqually, Cowlitz, Willamette, Umpqua, and Rogue watersheds the appearance of a magnificent park (Applegate 1914:68-70; Palmer 1847:88-100). There the first settlers selected their claims and made their homes.

To those who had grown up in the environment of mixed meadowland, hardwood, and conifer forests of the eastern United States, the Snake Plains particularly seemed forbidding and beyond consideration by "civilized" people. In 1845 Joel Palmer, when west of Fort Hall, noted: "the road has been stony and dusty; the country mostly destitute of vegetation--nothing growing but the wild sage and wormwood" (Palmer 1847:45). Riley Root in 1848, for example, cursed the dust, basalt flows, and heat along the Snake. When he arrived at Burnt River near the Oregon-Idaho border, he wrote: "Oh, when shall I view, once more, a verdant landscape! One thousand miles of naked rocks! Landscape without soil! River bottoms with scarcely enough grass to support emigrant teams" (Root 1955:25).

Even the passage of the Oregon Donation Land Act in 1850 did

not whet the appetite of overland settlers to select sites east of the Columbia Gorge. Their eyes, as John Shively wrote in 1846, were focused on the "sundown diggings of the West" and those places lay west of the Cascade Mountains. The influx of people by the overland routes, however, set the stage by the 1860s for another look at the prospects of the region's interior.

5. Early Federal Indian Policy

On August 14, 1848, Congress passed the Organic Act (9 Stat. 323) to create Oregon Territory. This statute created a frame of government for all of the region lying from the Rockies to the Pacific and between California and Canada. Section 14 carried westward the mechanisms and philosophy of the Ordinance of 1787 which provided for the orderly creation of new territories and stated 'That the inhabitants of said territory shall be entitled to enjoy all and singular, the rights, privileges, and advantages granted and secured to the people of the territory of the United States northwest of the river Ohio . . . ." Section 1 stated: 'That nothing in this act contained shall be construed to impair the rights of person or property now pertaining to the Indians in said territory, so long as such rights shall remain unextinguished by treaty between the United States and such Indians . . . (Oregon Legislative Assembly 1854:28-34). The Organic Act thus extended the philosophy of "utmost good faith" dealings toward the Indian tribes and confirmed their aboriginal land title. It set the stage for a treaty program to clear that title and to institute relationships between the tribes and the United States.

The Organic Act was the product of warfare, the result of an unfortunate neglect of affairs in the Oregon country. On June 15, 1846, the Oregon Treaty recognized American sovereignty in the Pacific Northwest and the withdrawal of the Hudson's Bay Company to Canada. The treaty extended the 49th parallel as the boundary between the United States and Canada from the Rockies to the Pacific Ocean. Congress, however, did nothing to organize a territorial government. The quasi-legal Provisional Government founded by American settlers in 1841 wrestled with land claims, depredations of wild animals on livestock, market roads, and other matters. The annual influx of settlers--more than 3,000 in 1845--suggested that stronger action was

needed. Congress did not provide it and, instead, focused on waging war against Mexico. Then in November, 1847, Cayuse Indians attacked the Whitman Mission at Waiilatpu. That event unleashed a war in the Columbia Basin which became the catalyst to compel Congress to create Oregon Territory.

The Cayuse War proved tragic not only for those at the Whitman Mission but also for the Cayuse Tribe. Strained, tenuous relations had existed for a number of years as Whitman, his wife, and helpers had attempted to effect the religious and cultural transformation of the Indians. Matters took on a new dimension when Whitman returned from a trip to the East in 1843 and was followed within a few weeks by nearly 900 overland emigrants. Those numbers tripled three years later. The Cayuse, ravaged by smallpox, saw calamity pressing down upon them, their lands bisected by the Oregon Trail, their people dying in spite of the medical treatments of Whitman. Ultimately a few Cayuse men, enraged by the continuing flood of emigrants, Whitman's failings as a doctor to their people, and operating within the cultural justification that it was permissible to slay a doctor who did not cure, attacked the mission. Their bloody adventure unleased a six-month war of retribution. More than 500 soldiers in several military companies raised by the Provisional Government invaded the Cayuse homeland to pursue the perpetrators of the "massacre." Ultimately they brought the five alleged murderers to Oregon City where they were tried and hanged in 1850 (Lansing 1993; Ruby and Brown 1972:109-171; 1981:105-106).

The federal government inaugurated its Indian policy in the Pacific Northwest in a faltering manner. It brought neither consistent program nor uniform policy. The officials of the Oregon Superintendency of Indian Affairs often lacked specific information about the tribes--their population, cultures, territories, and languages. They often did not possess the ability to communicate clearly and effectively with the tribal

leaders. The political agendas of the territorial legislatures sometimes delayed the implementation of treaties and, on several occasions, blocked ratification of agreements made in duly constituted councils. Federal land policies, settler encroachment on Indian lands, and the machinations of unprincipled men who preyed on the Indians further exacerbated the relationships. The Pacific Northwest faced thirty years of conflict between the Cayuse War of 1847 and the resolution of the Nez Perce War of 1877 (Buan and Lewis 1991:39-45).

The imperfection in implementation of federal Indian policy in the territory became evident when on September 27, 1850 (9 Stat. 496) Congress passed the act to provide for survey and disposition of public lands. Popularly known as the Donation Land Act, this measure led to first to the cadastral land survey system and ultimately to patents on 8,455 claims to approximately 2.8 million acres in the Pacific Northwest. Almost of these claims were filed upon prior to negotiation and ratification of treaties of Indian land cession. The claims included one in Idaho, two on the lower Walla Walla River, another on McKay Creek in the Umatilla watershed, and a nearly continuous chain of claims from Five Mile Rapids west via the Columbia Gorge. While the vast majority of the donation claims lay west of the Cascade Range, the law set the stage for further Indian discontent and, ultimately, warfare (Johansen and Gates 1967:234).

The first major stages of treaty program unfolded in 1851 in the region west of the Cascades. The Willamette Valley Treaty Commission secured six treaties of land cession in the northern part of the valley to cede an area heavily settled by Americans in the 1840s. Unknown to the Commission, Congress had abrogated its treaty powers prior to its commencing the councils and obtaining tribal agreement to the land cessions. Anson Dart, Oregon Superintendent of Indian Affairs, held in 1851 the Tansy Point Treaty Council and another at Port Orford on the

southwestern Oregon coast. Dart's treaties, like those in the Willamette Valley, reserved small tracts of land for the Indians in their aboriginal areas. Samuel Thurston, the territorial delegate to Congress, mounted a strong opposition to these treaties and argued that all the Indians from west of the Cascades should be colonized east of the mountains. None of the first eighteen treaties secured ratification (Beckham 1984a).

In 1853 Congress divided the jurisdiction for Indian Affairs between Oregon and Washington territories. In Oregon, Joel Palmer, author of an overland guidebook published in 1847, secured appointment as Superintendent of Indian Affairs. Isaac I. Stevens, director of the Pacific Railroad Surveys and governor, served in Washington. Both mounted active programs to secure Indian land cessions and create reservations. Following a series of treaty councils in western Washington in late 1854 and early 1855, Stevens summoned a number of Columbia Basin tribes to the Walla Walla Treaty Council. Supported by U.S. Army troops and working with Joel Palmer, Stevens pressed for agreements. The council led to treaties between June 9 and 11 with the Walla Walla, Cayuse, and Umatilla, the Yakima, and the Nez Perce. The treaties provided for numerous reserved rights. The federal government acknowledged that the tribes possessed the right "of taking fish in all usual and accustomed places," of "gathering roots and berries," of hunting, of erecting temporary buildings for curing fish, and of pasturing their horses and cattle "upon open and unclaimed land." In reserved land areas the tribes retained the "exclusive right of taking fish" in the streams running through or bordering their reservations (Kappler 1904[2]).

Stevens continued his travels and on June 16, 1855, secured a treaty with the Flathead, Pend D'Oreille, and Kootenay tribes of western Montana. It contained the same reserved rights guarantees. On June 25, 1855, Palmer succeeded in his negotiations with the Tribes of Middle Oregon (Taih, Wyam, Tenino, John Day, Dalles Band of Wasco, Ki-tal-

twal-la Band of Wasco, and Dog [Hood] River Band of Wasco. This treaty created the Warm Springs Reservation and retained the reserved rights clauses (Kappler 1904[2]; O'Donnell 1991:210).

None of the tribes north of the Yakima in central Washington participated in treaties with the United States. These people were removed to the Colville and Spokane reservations. On October 16, 1864, the Klamath, Modoc, and the Yahuksin Band of Northern Paiute signed a treaty ceding lands but reserving a 1.1 million acre reservation in the Klamath Basin. Other Northern Paiutes resided in south-central and southeastern Oregon. The Walpapi Band under chief Paulina signed a treaty on August 12, 1865, agreeing to cede lands and remove to the Klamath Reservation. The treaty of December 10, 1868, negotiated with Northern Paiutes at Fort Harney failed to secure ratification (Ruby and Brown 1986:156-158). The Bannock who resided in south-central Idaho allied with numerous Shoshoneans in the eastern part of the territory. The Bannocks participated on October 14, 1863, in an unratified treaty at Soda Springs, Idaho. The Treaty of Fort Bridger of July 3, 1868, involved both Bannock and Shoshonis and created the Wind River Reservation.

The treaty program thus provided an incomplete settlement with the Indians of the Columbia watershed. Some tribes and bands secured ratified treaties with specific reserved rights. Others participated in councils but never secured ratification of their agreements. Still other tribes and bands remained outside of the treaty process altogether. These inconsistencies, the continued trespass of Euroamerican travelers, and the influx of miners and cattle drovers set the stage for the Indian wars which beset these people in the mid-years of the nineteenth century.

These conflicts erupted in the fall of 1855 with confrontations between miners traveling to the Colville mines and, fatally, in the murder of Indian sub-agent A. J. Bolan. The hostilities led the governors of

Oregon and Washington territories to raise companies of volunteers and Major Gabriel J. Rains deployed U.S. Army regulars into the Yakima homeland. The defeat of Major Granville O. Haller and his infantry regulars in October, 1855, in their effort to enter the Yakima Valley confirmed that this war might prove costly. Further evidence arose dramatically in March, 1856, when the Yakima, Klickitat, and Cascades Chinookans swept through the Columbia Gorge to besiege Fort Lugenbeel, Fort Rains, and burned to the ground the headquarters post, Fort Cascades. The U.S. Army retreated down the Columbia to regroup and mount a counter offensive. General John Wool, commander of the Department of the Pacific, issued a highly unpopular order in 1856 to close the Columbia Basin to further settlement pending resolution of the war with the Indians and the confinement of the Yakima to a reservation (Victor 1894:423-430).

General Newman S. Clarke replaced General Wool in 1857. The conflicts continued in 1858 when the Spokane Indians turned back the troops under Col. Edward J. Steptoe. The men retreated under attack to Walla Walla. Major Robert Garnett led troops into the Yakima Valley, while Col. George Wright brought 500 soldiers into the region, killed between 800 and 900 head of Indian horses, and destroyed caches of winter food. These actions and summary executions the Indians alleged to have murdered Bolan and others brought an end of the Yakima War (Victor 1894:489-500).

During the Civil War a series of engagement pitted the Northern Paiute of Central and Eastern Oregon against U.S. Army regulars. The Army established Fort Harney, Fort Klamath, Camp Warner, Camp Watson, and Camp Curry in the region. Oregon Volunteers took up positions at Camp Wright, Camp Polk, Camp Maury, Camp Logan, Camp Gibbs, Camp Dahlgren, Camp Alvord and other locations during their patrols in the region south of the Columbia River (Drake 1964:4-118).

The conflicts inexorably wore down the Indian resistance and led in 1873 to confinement of many of the Northern Paiute on the Malheur Reservation in the Harney Basin. Created by executive order in 1872, the reservation proved vulnerable to the agendas of cattlemen who soon secured its abolition and removal of the surviving Northern Paiute to other reservations (Meacham 1875).

The Modoc War erupted in 1872, the result of long-smoldering hostilities between travelers on the Applegate Trail and the Indians residing in the lake region along the Oregon-California border. The war pitted Kietepoos, or Captain Jack, and his small band against the U.S. Army. Engaging in guerilla warfare from their stronghold in the lavalands along the margins of Tule Lake, the Modocs held a much superior force at bay for months. When they Modocs attacked the treaty commission, on April 11, 1873, they gained national attention for killing General E. R. S. Canby and others. Ultimately forced to surrender, the Modoc leaders were hanged and the surviving tribal members removed to Oklahoma (Murray 1959).

Warfare erupted in 1877 when the U.S. Army attempted to force the Joseph Band of Nez Perce in Oregon's Wallowa Valley to remove to the Nez Perce Reservation on the Clearwater River in Idaho. Insistent that the treaty 1855 had reserved their homeland and that they were not parties to a subsequent treaty ceding the area, the Nez Perce of the Wallowas were surrounded by eager livestock owners who coveted the lush benchlands along the Snake and Imnaha as well as the Wallowa Valley. Although Chief Joseph finally agreed to the removal, hostilities erupted before it was complete. He and his war chiefs then led the band on a circuitous route to try to escape the Army. Their "retreat" led them over the Lolo Trail, through Yellowstone National Park, and finally onto the Great Plains of Montana. The Nez Perce displayed remarkable skill in evading the pursuing armies, in engaging in combat, and moving

their families toward Canada. Nez Perce casualties tallied 151 dead and 80 wounded, while 127 soldiers and 50 civilians died in the conflict. Surrounded within a few miles of the border, the refugees were compelled to surrender and were removed to Kansas and finally to Oklahoma. Enduring terrible deprivations and death, the survivors were finally removed to Nespelem on the Colville Reservation (Johansen and Gates 1967:276; Josephy 1965; Josephy 1983:97-152).

The Bannocks of Idaho who had signed the Treaty of Fort Bridger discovered that they had to share their annuities with the Shoshones who were moved onto their reservation. Never did the agents have sufficient food, clothing, or shelter. In the spring of 1878 Bannocks under Buffalo Horn and Egad headed toward the Malheur Reservation where they planned to unite with equally aggrieved Northern Paiute. Pursued by troops, the Bannocks endured defeat in July. The Army then pursued the Sheepeater Indians of Valley County, Idaho, finally capturing them in September and bringing to a close three decades of intermittent conflict between Euroamericans and Indians (Ruby and Brown 1981:256-257; Trenholm and Carley 1964:223-224;261-265).

The early federal Indian policy in the Pacific Northwest exhibited numerous problems. The government failed to protect its promises of aboriginal land title and facilitated encroachment on the Indian domain by the Donation Land Act, survey of land, cash entry sales, and ultimately by the Homestead Act of 1862. The Bureau of Indian Affairs faltered in its treaty program, made promises but did not always secure ratification of treaties, and left many tribes and bands with no treaty relationship. The reservations proved vulnerable to reduction in size by executive orders and acts of Congress. Never did the agents have sufficient resources to mount adequate programs of health, education, and welfare for the Indians held on under their charge. When treaties had provided for reserved rights, the federal government did virtually

nothing to maintain its trust responsibility to the tribes in the face of individual and state assaults on tribal entitlements.

The Indian program was furthered weakened by corruption of officials, incompetency in office, and inconsistency in policies. With few advocates and little ability to protect their interests other than to go to war, the Indian tribes were in an untenable situation. Thirty years of conflict, however, defined their fate--confinement to small tracts of lands and imposition of purposeful programs to accelerate their transformation into "civilized" persons who, perhaps someday, might be considered for citizenship in the United States. The "civilization" programs were premised on agriculture, English, and Christainity. They were designed to destroy the languages, religions, and traditional cultures of the Indians of the Columbia Basin. While elements of the old lifeways continued, the pressure to change and conform beset the tribes for next century.

6. Euroamerican Settlement

The grasslands of the Columbia Basin beckoned to the flood of overland settlers pouring across the Oregon Trail. Cattle owners in the Sacramento Valley of California also looked for places where they might feed their expanding herds before driving them to market. The millions of acres of Bluebunch Wheat Grass and the well-watered margins of rivers and remnant lakes suggested the potential of the region between the Cascades and the Rockies . The development of the great horse herds of the Cayuse, Nez Perce, Umatilla, Yakima, Klickitat, Northern Paiute, Bannack, and Shoshone demonstrated the viability of livestock operations. The Hudson's Bay Company and the missionaries had also tested the potentials for raising cattle, sheep, goats, and hogs at scattered points in the interior. Grasslands, gold, and generous federal land laws all played important parts in the spread of Euroamerican settlement into the vast region between the Rockies and the Cascades.

Elizabeth Wood, an Oregon Trail emigrant, extolled the Grande Ronde Valley when she camped there in September, 1851: "Its fertile soil produces several kinds of luxuriant grass--blue grass, timothy, clover, red top, and 'broom corn' grass, that looks like oats, only the head is not heavy enough" (Wood 1984:176-177). The following July, Jared Fox entered the same watershed and wrote: 'The valley is covered with grass & wild grain. The wild wheat is up to the horses backs, the red top is a foot short of that. The June grass and red clover up to your knees" (Fox 1852:43). The great deterrent to settlement in the 1840s and the 1850s was distance. The region east of the Cascades was simply too far from dependable points of supply and markets.

Between 1850 and 1855--the date of expiration of the donation land program--only a handful of settlers selected claims in the Columbia watershed. Entrepreneurs hoping to control the portage of the

Columbia filed for claims along its north bank at the Cascades. Another cluster of nearly a dozen took up lands along the south bank of the Columbia River from Crate's Point east to the townsite of The Dalles. A solitary claimant filed in the Umatilla watershed, a few others including the former Hudson's Bay Company trader William McBean, filed along the Walla Walla River, and only one, William Craig who married a Nez Perce woman, took land at Lapwai Creek in what was to become Idaho. The impact of the Donation Act which led to patents on over 2.6 million acres in the Pacific Northwest lay west of the Cascades. It was of little direct significance in the vast Columbia Basin (Josephy 1983:70; Johansen 1957:iii-viii).

The federal government, however, laid down a structure to facilitate a somewhat orderly progression of settlement. The Organic Act of August 14, 1848, established Oregon Territory. This measure led to the appointment of Joseph Lane as governor and the implementation of government under his leadership in March, 1849. That year the War Department dispatched the Overland Riflemen, a contingent of U. S. Cavalry, to cross the Oregon Trail and establish military posts to insure peaceful relationships between Indians and emigrants. The Riflemen created Cantonment Loring, a temporary post near old Fort Hall on the upper Snake, and began construction of Fort Vancouver, a regional headquarters near the confluence of the Willamette and Columbia rivers (Settle 1940).

The Organic Act reserved the right to divide "said territory into two or more territories." Congress exercised the prerogative in 1853 to create Washington Territory and in 1863 to form Idaho Territory. These actions led to the appointment of officials, implementation of Bureau of Indian Affairs programs and reservation management, expansion of military patrols and posts, opening of General Land Offices and mounting of surveys, extension of postal services, and creation of the federal court

system. Each represented an investment of the resources of the people of the United States in the new territories and each contributed to the sense of stability attractive to settlement (Schwantes 1989:104-107).

In time the allurements of lands east of the Cascades proved irrestible. Some embraced risk and took their chances beyond the mountains. In the summer of 1859 W. W. Chapman, surveyor-general of Oregon, reported emigrants from California, the Willamette Valley, and the eastern states were headed toward the interior with "thousands of cattle and horses." The establishment of Fort Walla Walla that year provided a good inducement for settlers to select claims in the Walla Walla Valley. General William S. Harney reported that "some two thousand industrious and thriving settlers" had located there (Oliphant 1968:81-82).

Nancy C. Glenn, an emigrant on the Oregon Trail, well captured the feelings of prospective settlers when she reached the Grande Ronde Valley in October, 1862:

> This is one of the most beautiful valleys in the world surrounded by high mountains William thinks it the most beautiful valley he ever saw and a plenty of the nicest timber and the best springs in the world almost I wish you were all here and had provision enough to last until you could raise some But nearly all the emigrants that has went down into Oregon this year intend coming back as soon as they can get back in the spring and I expect the land will then all be claimed up (Glenn 1989:24).

Glenn's observations proved prophetic. Less than a year later James L. Bailey came to the same point and wrote: ". . . our teams jog[g]ing along the valley over a very good road in the direction of Lay Grand, a small town on the south west side of the valley" (Bailey 1863). The course of settlement was well underway and already included a platted town

(Thompson 1863).

Gold became the magnet which changed the pattern of settlement in 1862-63. Although small strikes had drawn miners to the Colville Mines of the northern Columbia Plateau in 1855-56 and others to the Fraser River, the mineral potentials remained largely unknown. Rumors of the fabled "Blue Bucket Mine," a placer deposit allegedly found by the "lost wagon train" of 1845 which followed Stephen H. L. Meek across eastern and central Oregon, hinted at the prospects of easy wealth (Clark and Tiller 1966:107-121). For years, however, the region seemed devoid of valuable minerals.

The course changed in 1862 with the simultaneous discovery of placer deposits at several locations in the Columbia Basin. These included rich deposits on the upper John Day River in the vicinity of Canyon City, on the upper Powder River at Auburn and Sumpter, at Florence, Idaho, on the Salmon River, and at Pierce City and Orofino in the Clearwater country of Idaho. Soon miners found other rich deposits in the Boise Basin and in the higher elevations of the Blue Mountains at Granite and Greenhorn. These strikes drew in thousands of miners who, in turn, created markets for stockraisers and farmers eager to take up lands in the interior of the Pacific Northwest. The gold discoveries in the interior of British Columbia served as a further opportunity. Miners rushed to the Cariboo country. They were hungry men. In 1862 James Heatherly and A. J. Welch of Lane County left with 800 sheep and 300 or 400 head of cattle for the Cariboo mines. The *Pacific Christian Advocate* (Portland, OR.) reported by October that over 46,000 head of cattle had crossed the Cascades that season for the interior (Oliphant 1968:64).

Congress played a critical role as well with the passage in 1862 of the Homestead Act. It created a mechanism whereby would-be settlers could obtain up to 160 acres of public lands for free, provided they paid

a modest filing fee and met the terms of proof. Congress also addressed the interests of miners. The Mining Law of 1866 opened mineral lands on the public domain to all. The claims were to be worked according to local mining law and, when the miner could demonstrate $1,000 in labor and improvements, he could secure patent. The Placer Mining Law of 1870 extended claims to non-lode deposits with patenting at the rate of $2.50 per acre. The General Mining Law of 1873 limited lode locations to 1,500 feet in length and 600 feet in width and said that individual claimants were limited to 20 acres, while associations or groups might claim up to 160 acres. The law required $100 in annual assessment work and a minimum of $500 in improvements as a condition for patent (Muhn and Stuart 1988:17-19).

Thousands weighed the prospects of emerging boom towns, markets for agricultural commodities, fertile lands, and rich placer and lode deposits. Many thought the gamble worthwhile. Thus, while the eastern United States was convulsed in the Civil War, the Columbia Basin began a period of rapid settlement. In the decade of the 1860s Euroamericans began taking up lands in well-watered areas. The Klamath Basin, Goose Lake Valley, Warner Valley, John Day drainage, Powder River Valley, and Grande Ronde Valley in Oregon, the Walla Walla drainage in Washington, and the Boise River and lower Clearwater country of Idaho stood high in the interest of the settlers and drovers. These places possessed thousands of acres of fertile bunchgrass, held the prospect of irrigation, and were, in several instances, located within reasonable distance of nearby mining camps.

Harvey Hines, a Methodist minister who traveled widely in the region east of the Cascades, wrote in 1882 of the prospects of the region:

> What we call the 'bunch grass country' is that lying between the Cascade and Blue mountain ranges, a distance east and west of

> 150 miles in round numbers, and from the Coeur d'Alene mountains to the high ridges that run from the Blue mountains westward, about a hundred miles south of the Columbia river, a distance north and south of not less than 250 miles. There are tracts within these limits that may be called 'sage brush land,' as a large part of the Yakima valley and the lower Snake river valley; but, in general, with these exceptions, it is covered with a comparatively clean growth of bunch grass.

Hines also described the Snake country above Hells Canyon and reaching east toward the Rockies. This area he denominated "sage brush country" extending:

> over nearly the whole of the main tributary valleys of the Snake river . . . Powder river valley, the great valley of Snake river from the mouth of Burnt river to Fort Hall, a distance of say four hundred miles, and with a width of fifty miles; and the Malheur plains and hills sweeping southward around the southern end of the Blue Mountain range, are mainly of this character. There are limited exceptions to this description, as where the hills rise to a great altitude they are covered with bunch grass, or in the lower bottoms along the streams they are set with either rye grass or a native red top and clover.

Even the sage region, however, Hines found productive. "It may be said," he wrote, "this white sage furnishes remarkably nutritious winter forage for cattle, and the places where it flourishes best, are a kind of winter haven for the herds of the 'cattle kings'" (Hines 1882a, 1882b).

The cattle kings brought their vaqueros, herds, and determination to take up lands in the hinterlands of the Pacific Northwest. In the late 1860s the drovers scouted the remote stretches of Guano, Catlow, and

the Pueblo valleys. By the fall of 1869 drovers had an estimated 900 head of cattle and 100 head of horses in the Goose Lake Valley. The *Oregon Weekly Statesman* reported 10,656 head of cattle were in the Umatilla watershed. Barney Prine, founder of Prineville on the Crooked River, reported several thousand head of sheep and over 2,000 cattle on the Ochoco. That fall drovers brought in "large bands of Texas cattle" to Idaho's Raft River Valley. John S. Devine and W. B. Todhunter located their herds in the Alvord region southeast of Steens Mountain. Other cattlemen staked out pastures in the Klickitat and Yakima watersheds (Oliphant 1968:85-100).

Congress aided the eastward flow of settlers from the area west of the Cascades by massive grants of lands to the State of Oregon for transfer to wagon road companies. Created under the guise of "military wagon roads" for the expeditious movement of troops and supplies between the settled regions and newly opening lands east of the mountains, the road construction held out the prospect of securing three square miles of land on either side of each mile of road built. These grants in the 1860s led to the operations of three companies. The Oregon Central Military Wagon Road Company, founded by investors at the head of the Willamette Valley, surveyed a route via the Middle Fork of the Willamette River across the Cascades to the headwaters of the Deschutes. Rather than proceeding directly east toward Fort Boise--as prescribed in the program--the surveyors turned south into the Klamath Basin, then east to pass through the Goose Lake Valley, Warner Valley, Guano Valley, Catlow Valley, and Pueblo Valley. The company's circuitous route through well-watered lake and marsh areas gave it opportunity to claim valuable grazing acreage (Beckham 1981[1]:9-41). The Cascade Mountain-Willamette Valley Wagon Road, laid out in 1866 by investors in the mid-Willamette Valley, built east from Albany via the South Santiam River to the Deschutes. Its route headed on east via the

Crooked River Valley through the northern part of the Harney Basin and then northeast toward Boise (Guminski et al. 1983:19-22). The Fort Dalles-Fort Boise Wagon Road moved southeasterly from The Dalles via the John Day watershed to cross the Blue Mountains and converge at Boise.

While charges of inadequate construction, fraud, and use of the grants merely as a device to secure title to hundreds of thousands of acres of Oregon lands swirled around the road companies, they did survey and--to some extent--lay out wagon routes into the interior of the Pacific Northwest. They obtained lands which their investors either sold or developed in conjunction with cattle drovers. The Oregon Central Military Wagon Road Company, for example, secured title by 1875 to 361,327 acres out of a potential 806,400 acres transferred to the state for its purposes. The Cascade Mountain-Willamette Valley Wagon Road Company secured 860,000 acres by 1871 (U.S. Senate 1887:74-75). The military wagon road program in Oregon became yet another stimulus to induce the children of the Oregon Trail generation to cast their lives and fortunes in the region east of the Cascades.

The General Land Office played an important supporting role in the advance of settlement into the Snake Plains, Bitterroot Valley, Columbia Plateau, and High Desert regions of Oregon. In response to petitions of settlers, the GLO contracted with surveyors to mount subdivisions of townships to facilitate the orderly disposition of the public domain. By 1852 the basic pattern was in place with the Willamette Meridian and the Baseline serving as the basic grid for all of Oregon and Washington. Subsequent to the creation of Idaho Territory in 1863 the GLO established the Boise Meridian and Baseline as the basis for surveys east to the Rocky Mountains. The course of survey moved rapidly in settled areas. Prior to 1863 the surveyors had worked in the Klamath Basin lower Deschutes, and Umatilla watersheds in Oregon. Over the next twenty years they subdivided nearly all of the eastern two-thirds of

the state. Only the highest elevations or most arid desert regions awaited their examination (O'Callaghan 1960; Loy et al. 1976:9).

The General Land Office administered the programs created by Congress for the disposition of the public domain. In the Columbia Basin several statutes proved of considerable significance, at least in attracting would-be claimants. Beyond the opportunity to purchase lands through cash entry, the Homestead Act (1862) proved highly popular. The law stated that heads of households, widows, and single people over the age of twenty-one could file upon 160 acres under the Preemption Law (1841). Claimants then had to reside on the land for five years and cultivate it, or, if they wished, they might commute the claim to a cash entry and pay the minimum price per acre. Of interest in the arid interior of the Pacific Northwest was the Desert Land Law (1877). This law permitted filing upon 640 acres at a price of $1.25/acre and the issue of a patent if the claimant could bring the land under irrigation within three years. The law applied to Montana, Idaho, Wyoming, Washington, Oregon, and four other western territories or states. The Forest Homestead Act (1906) permitted settlers who could find lands within forest reserves with demonstrated agricultural potentials to enter upon such lands under the Homestead Act. The Enlarged Homestead Act (1909) responded to the demands of people seeking to engage in dryland farming. This law gave 320 acres to claimants seeking lands not susceptible to irrigation. The law required residency and planting of one-eighth of the tract. The Three-Year Homestead Law (1912) reduced the five-year residency requirement by two years. The Stockraising Homestead Act (1916) allowed individuals to file upon 640 acres if the land was chiefly valuable for grazing or forage crops. The law required residency and improvements to the value of $1.25 per acre. Collectively these laws opened avenues for ambitious and lucky settlers to carve out a property of several hundred acres, provided they

met the terms of the statutes. Some did. Congress thus lured settlers into the Columbia and Snake watersheds by its land laws (Muhn and Stewart 1988:14-36).

Throughout the Columbia Basin by the 1870s there existed new communities. Far-flung counties coped with providing basic services of recording deeds and mining claims, operating courts, surveying market roads, and providing a semblance of law and order. The mining towns provided the initial stimulus and took on an immediate urban cast. They provided both goods and services to a laboring population. These included general stores, blacksmith shops, hotels, restaurants, boarding houses, saloons, livery stables, and, sometimes, small sawmills. Because of their focused labor in the diggings, the miners anticipated and received fair delivery of services. These might include laundry work, carpentry, banking, legal assistance, and medical care. The aspirations of the mining era communities were mirrored in their euphemistic names: Florence City, Pierce City, Silver City, Baker City, Canyon City. Scarce a community dared be less than an instant metropolis.

Community growth throughout the region was rapid. Frances Fuller Victor noted it, for example, when she described communities on the eastern flank of Washington Cascades. 'The First place of any consequence which we come to after passing the mining towns of Cle-ee-lum and Roslyn is Ellensburg, in Kittitass County," she wrote. "It was first settled in 1867, by two families. The present population is five thousand." Of Spokane, Victor was even more expansive and enthusiastic. She described its dramatic growth from a mid-1870s milling site into a city of granite, brick, and cast-iron buildings, including some from three to seven stories tall. "An opera-house costing over a quarter of a million, a hotel costing nearly two hundred thousand dollars, a handsome post-office, cable and electric street railroads, electric and gas lighting, the power furnished by the falls, water-works, and every other modern

appliance of a luxurious civilization, are to be found here," she wrote (Victor 1891:365).

In Idaho successive colonies of Mormon agriculturalists took up lands along the upper tributaries of the Snake. Responding to the good soil and climate along Goose Creek, Raft River, and the Blackfoot River, they coped with isolation through the special bonds of their religious community and its social life. Steadily in the 1870s Idaho spawned a succession of new counties as settlers turned irrigation water onto the sagebrush flats to raise wheat, oats, barley, and potatoes as well as grazing their cattle on the meadow grass in the steam bottoms (Bancroft 1890:541-560).

The spread of settlement continued across the far-flung Columbia Basin. The first generation took the fertile, well-watered stream courses. The second generation filed upon or purchased the more marginal creek courses and higher elevation meadows. The early twentieth century homesteaders gambled on the arid and marginal High Desert regions. Increasingly the succession of settlers lived more and more problematically. Lacking irrigation, coping with isolation, struggling to make proof on their homesteads or Desert Land Entries, those who poured into this region--and several tens of thousands did so in the first two decades of the twentieth century--were risk takers. Few possessed a choice. Inspired by a desire to own a place of their own, embracing the agrarian dream when it was far more likely to prove mythic than real, they endured numerous problems.

Alice Day Pratt was one of those who cast her luck on a homestead in the Columbia Basin in 1911. A schoolteacher who had lived in Minnesota, South Dakota, and North Carolina, Pratt traveled west by train and taught in Athena, Oregon, while a locator found her a claim in the Ochoco country of central Oregon. Pratt's homestead lay nearly thirty-five miles from Prineville. Her situation was not unlike that of

many who tried to find a future in the region:

> Fifty miles to westward passed the nearest railroad line; one hundred and fifty miles to eastward the next nearest. Northward and southward the distance was so great as to be non-negotiable. On every hand, high, dry, and untamed stretched the Central-Oregon plateau. Richly timbered mountains and deep river clefts made occasional dots and lines upon its vastness. No human habitation was in sight (Pratt 1993:47)

For five years she coped with meeting "proof" on her 160 acre claim. Lacking resources to purchase lumber or the means to fell and haul logs to erect a cabin, Pratt resided in a tent-cabin. She labored as her own "beast of burden" to clear sage, fell junipers, dig post holes, set fences, and split firewood. She coped with coyotes, hawks, and rabbits. A would-be chicken farmer, she eked out an existence, praying she might secure sufficient money to obtain a milk cow and horse. Her neighbors--a number of them of the first generation who had taken better lands in the 1870s, she found rude and unhelpful. As to men, she concluded: "The relationship of confirmed bachelors is like a second childhood." Pratt's survival was almost a miracle. "Being penniless, I had no wood put in," she recalled, "but continued to depend upon my own daily exertions, although available fuel was retreating always farther from the fire, for even one lone homesteader can burn a huge amount of wood in the course of two years' time." Finally in a blizzard, desperate for heat, Pratt burned her chopping block. And when it did not abate, she was compelled on the next day to burn her ladder (Pratt 1993:86-121).

Thousands who came to the Columbia Basin's rural lands simply had to "make do." Compelled by statutory requirements to reside on their claims but lacking the capital to improve their lot, they risked their

lives for the sake of land. Many failed. The records of the General Land Office confirm that thousands encountered shattered dreams. The notes "relinquished" or "cancelled" mark a record of repeated efforts of agrarians to try to make a go of life in a challenging environment. The fieldstone foundations of their cabins, the traces of their hand-dug wells, and the scatter of broken dishes and rusting enamelware on the parched soil are mute evidence of their efforts. Not all found their calling in a land that can be harsh and unforgiving. Success came easier for the first to arrive because they got the lands providing an easier lot. Experience proved a master teacher, however, and for every ten who moved on, one or two remained. Such was the nature of early settling.

7. Transportation

The evolution of transportation which nurtured the commercial development of the Columbia Basin emerged by design, ambition, and hard labor. The patterns fell into place fairly early and established a flow of raw materials and goods which fed the pulse of growing communities and as well as the scattered rural population of the region.

In the 1840s the federal government mounted two reconnaissance missions in the interior. In 1841 a detachment of the U.S. South Seas Surveying and Exploring Expedition ascended the Columbia, passed through the Gorge, and mapped the land as far east as the Hudson's Bay Company's Fort Walla Walla. In 1843 John C. Fremont of the Topographical Engineers led his exploring westward over the Oregon Trail. While these parties contributed journals and maps, the Pacific Railroad Surveys of 1854-56 played a far more significant role. Premised on the assumption that a transcontinental railroad was both practical and desirable, Congress funded multiple expeditions carried out under the direction of Jefferson Davis, Secretary of War. The goal of the exploring parties was to find the most suitable route for a railroad--one with amenable terrain, feasible cost, and potential for year-round operation (Goetzmann 1966:281).

The surveys were multi-faceted, involving naturalists, geologists, ethnographers, and cartographers. Critical to the location of transportation corridors were the engineers who examined the countryside for grades, curves, tunnels, bridges, and the technical feasibility of the routes. The most ambitious of all the surveys was that of Isaac Ingalls Stevens, newly named governor of Washington Territory. Stevens headed west from Fort Union at the junction of the Yellowstone and Missouri rivers. He directed Capt. George B. McClellan to mount a comparable survey from Puget Sound east over the Cascades. The plan

was for the two parties to meet in the interior. This Northern Division survey located five passes through the northern Rockies: Lewis and Clark's Pass, Cadotte's Pass, Hell-Gate, Lolo, and Marias. The men also found that old fur trade routes via lakes Coeur d'Alene and Pend d'Oreille provided a critical way around the northern Bitterroots. McClellan, however, fared poorly in the Cascades. Hesitant about the altitudes and possible snow depths, he examined the approach to Snoqualmie Pass but dismissed it and other routes as likely to be buried in winter snows (Overmeyer 1941:55-60; Stevens 1859[12]:32-33; Stevens 1901[1]:394-395).

The surveys mounted under the direction of Gov. Stevens secured an enormous amount of information about the northern portion of the Columbia Basin and its connections to the east and the west. Confident that he had found a potential railroad route, Stevens joined other investors to secure a charter in January, 1857, for the Northern Pacific Railroad Company. Capitalized initially at $15,000,000, the firm planned to build west from Nebraska via the northern Rockies and the Bitter Root Valley to the Columbia Plateau. There the company envisioned two lines--one crossing the Cascades to Puget Sound and the other heading down the Columbia (Stevens 1901[2]:265).

In Oregon the Pacific Railroad Surveys mounted by Lt. Henry L. Abbot and Col. Robert Stockton Williamson included an examination of the watershed of the Deschutes and the Klamath Basin. Their goal was to find a potential north-south route as well as to assess the potentials of a number of passes across the Cascades. They found six passes but concluded that only three--one south of Mount McLoughlin, another south of Diamond Peak, and a third south of Mount Hood crossing into the Clackamas watershed had potentials for railroad use (Abbot and Williamson 1857[6]:30-31).

The U.S. Army entered the road survey and construction mission

with the Cascades Portage Road via the Columbia Gorge. Lt. George H. Derby surveyed and constructed the route in 1855-56 from Fort Vancouver to the Upper Portage at the Cascades, a distance of 46 miles. The goal of the Topographical Engineers was to build an all-weather route which would permit the Quartermaster Department to move supplies to military posts throughout the Columbia Basin without constraints of competing portage companies or weather (Beckham 1984b:93-106).

The spread of military posts and the acute need of connections via the northern Rockies inspired the military to proceed with the Mullen Road. Lt. John Mullen had served with Governor Stevens in 1853 in mounting the Northern Division Pacific Railroad Surveys. Realizing that a wagon road would prove invaluable as an adjunct to eventual railroad construction, Stevens ordered Mullen to seek a suitable wagon road route from Fort Benton, the head of navigation on the Missouri in Montana, to Fort Walla Walla on the Columbia River. Mullan interviewed former fur trappers and missionary priests and discovered that wagon travel from the Bitterroot Valley east to Fort Benton was relatively easy. He then concentrated on alternatives from present Missoula to Walla Walla by examining three routes: one via the Clark Fork, another via St. Regis-Coeur d'Alene, and a third across Lolo Pass into the Clearwater country of central Idaho. After eleven difficult days crossing from Lolo Creek to Weippe Prairie, Mullen ruled out Lolo Pass through the Lochsa-Clearwater drainage (Space 1970:41).

In the spring of 1854 Mullen brought a train of wagons over the route and proved its practicability. Congress in 1855 appropriated $30,000. The Indian wars of 1855-58 so occupied the military, however, that construction languished. Ultimately in 1859 Congress appropriated another $100,000 and the army proceeded with cutting and partially grading the route--624 miles across the interior of the Columbia Basin,

over the Rockies, and to a terminus at the steamboat landing at Fort Benton. The route opened in August, 1862, and an army unit crossed it in 57 days. "Compared to twentieth-century highways," noted historian Carlos Schwantes, "the Mullan Road was primitive: its grades were steep and in some places impassable in wet weather." In the Bitterroot and Coeur d'Alene mountains it was more of a pack trail than a road. The road, however, served the mining camps of the region and became another link in the transportation systems (Bancroft 1890:199-200, 384; Schwantes 1989:149).

Anticipating possible warfare with the Mormons in Utah, General William S. Harney in 1858 dispatched Capt. Henry D. Wallen to survey a wagon road from Fort Dalles across the Blue Mountains to the Great Salt Lake. The commitment to this enterprise proved substantial. Wallen's reconnaissance party included nine officers, 184 enlisted men, 154 horses, 344 mules, 121 oxen, 30 wagons, and an ambulance. Wallen ascended the Deschutes, turned east via the Crooked River, explored the Harney Basin, and moved into the Snake watershed east of Fort Boise. Historian W. Turrentine Jackson subsequently wrote: 'This party was undoubtedly the largest and best equipped of any engaged in wagon-road survey and construction for the United States Army in the trans-Mississippi West." The Army, however, took no further action to develop this route across the Columbia Basin (Jackson 1952:84-86).

On the eve of the Civil War the federal government launched one further important survey into the Columbia Basin. Although not focused on the development of a transportation route, the ambitious enterprise involved four years of field work and the accumulation of extensive amounts of data. This was the Northwest Boundary Survey which laid out the boundary with Canada from the summit of the Rockies to Puget Sound. Directed by Archibald Campbell, this expedition included not only surveyors but also naturalists and ethnographers. The work in 1859

and 1860 included the transit of the region east of the Cascades into western Montana. Its labors at last completed, the crew set out for Washington, D.C., to prepare scientific reports and maps for publication. The Civil War intervened and its data remained as an obscure manuscript collection, never seen and seldom, if ever, cited (Beckham 1969:193-224; Deutsch 1962:17-33).

A sense of opportunity drove the entrepreneurs who risked their modest capital and energies to develop the region's early transportation systems. In 1850 Bradford & Company, a pool of investors who had filed on adjoining donation claims along the north bank of the Columbia at the Cascades, opened as mule-drawn portage enterprise with carts to haul the meager possessions of emigrants along five miles of difficult terrain at the lowest rapids on the Columbia River (Gillette 1904:121). In 1855 Joseph Ruckel and Harrison Olmstead opened a competing line--the Oregon Portage--on the opposite bank. Steamboats plied the Columbia from the Cascades west to Portland and Astoria and, in 1851, investors initiated service from the Upper Cascades east to The Dalles. Capt. John Ainsworth, one engaged in running those vessels, saw the larger prospect. In league with William S. Ladd, Robert R. Thompson, and Simeon Reed, he bought out Ruckel and Olmstead and then persuaded Bradford & Company to agree in 1860 to a division of the portage business between the two lines. In those carefully orchestrated transactions, Ainsworth gained a monopoly and from it emerged the Oregon Steam Navigation Company (Gill 1924:174-235).

The OSN Company not only had visionary leadership. Luck played a part as well. In 1860 the firm bought out Orlando Humason who had established a freight business via a portage wagon road east of The Dalles to the steamboat landing at the mouth of the Deschutes. The OSN Company thus added this critical portage to its emerging stranglehold on the commerce along the Columbia River. In 1862

Ainsworth made another strategic acquisition--20 miles of track and a steam locomotive. He shipped these from San Francisco and laid plans to install portage railroads along the Oregon shore at the Cascades and along the rapids east of The Dalles. These actions at last persuaded Bradford and Company to sell out to the OSN Company. "This was our grand victory!" exulted Ainsworth. The OSN Company by late 1862 thus controlled both of the Cascades portages as well as the critical south bank of the Columbia from the Deschutes to The Dalles. The firm could play monopoly (Ainsworth 1877-94).

The vision of the founders in the Oregon Steam Navigation Company, however, extended far beyond the western margin of the Columbia Plateau. In short order the investors constructed the *Colonel Wright*, a steamboat which they placed in service from the mouth of the Deschutes to Wallula Gap. In time they created an extensive system of transportation connections which reached to Missoula, Montana, the upper Snake, as well as the gold rush boom towns throughout the Columbia Basin. With steamboats, portage railroads, freight wagons, and stage coaches, the OSN Company hauled freight and passengers. Its Columbia River vessels also carried livestock. Within a decade its primary investors were millionaires.

The ambitious projects of the OSN Company anticipated by a few months the explosion of population and commerce into the interior of the Pacific Northwest. When cattle drovers and miners discovered the potentials of the region, the OSN Company had its steamboats and portage lines in place. All it needed to do was to acquire freight wagons, stage coaches, and additional steamboats to create a transportation system to knit the scattered mining camps and emerging new towns to its main lines. The company accomplished that handily. A measure of its success was confirmed in the mounting tally of passengers and freight passing over its Cascade portages.

Table 2.

Portage Activity, Cascades of the Columbia River, 1861-64

Year	Passengers	Tons of Freight
1861	10,500	6,290
1862	24,500	14,550
1863	22,000	16,646
1864	36,000	24,834

(Office of the Chief of Engineers 1867)

Another measure of the flow of commerce appeared in the *Oregon Statesman* (Salem, OR.) of April 20, 1863. A correspondent who signed his name "Veritas," wrote from The Dalles:

> Some idea may be formed of the number of men and amount of freight going from here direct to the mines overland, from the fact that an average of 200 pack animals and from ten to twelve freight wagons, carrying from 3,000 [to] 5,000 pounds each, leave town daily, and miners probably average not less than 150 per day, bound in various directions. For some time past John Day river mines appear to have carried the day with most of them, though many are bound for Boise (Oliphant 1968:60).

In the late 1850s both U.S. Army personnel and local road companies also examined several of the Cascade passes in Washington Territory for potential wagon roads (Bancroft 1890:384-385). Congress expanded the federal commitment to road development in the interior of the Pacific Northwest with a series of land grants to the state of Oregon in 1864-66 to stimulate construction of "military wagon roads." Three projected lines crossed the Cascades to converge on Boise, Idaho. These were the Oregon Central Military Wagon Road (Eugene-Boise), the Cascade Mountain and Willamette Valley Wagon Road (Albany-Boise),

and The Dalles-Fort Boise Wagon Road via the John Day watershed and the northern Harney Basin. Congress transferred hundreds of thousands of acres to the state which, in turn, passed title to the road companies. While critics charged the construction was bogus and the roads impassable, the program nevertheless created new arteries for movement of livestock, freight wagons, and travelers (Jackson 1949:23-29).

The wagon roads and the network of connections crafted by the Oregon Steam Navigation Company in the 1860s followed old Indian trails, trapper routes, and the Oregon Trail. By the mid-1860s the interior possessed central points for supply and distribution: The Dalles, Umatilla, Wallula, Walla Walla, White Bluffs (on the Columbia River), and Lewiston. Access to these distribution centers varied. Pivotal was the route via the Gorge and the Columbia River. In time, however, alternate avenues of supply to the distribution centers included the following:

- Fort Benton, Montana, westward via the Mullen Road to the Bitterroot Valley
- Chico, California, northeast via Honey Lake, Humboldt River, to the Owyhee watershed and Boise Basin
- Kelton, Utah, on the Central Pacific Railroad northward to the Snake Plain and to western Montana; northwestward toward the western Snake Plain and the Boise Basin
- Corrine, Utah, on the Central Pacific Railroad northward to western Montana via the upper Snake

These routes drew packers, freighters, and stage operators. Some who secured mail contracts found the enterprise lucrative. Others prospered as long as a mining population paid high prices for necessary commodities. When the mines played out, the transportation enterprise slackened and, in some instances, became sporadic or terminated (Meinig 1968:214-219).

The opening of mines on the Owyhee in 1863 stimulated a rush of miners who poured into Ruby and Silver City. As in previous strikes, the influx of hundreds of laborers drove the development of transportation systems to meet the needs of the new communities. The Owyhee mines thus led to the opening of pack mule and difficult wagon transportation from Jordan Creek to McDermitt, Nevada (Bancroft 1890:419-420).

The prospects for maturation of a transportation network throughout the Columbia Basin turned on the building of railroad lines. The portage lines at the Cascades and Celilo were the beginning. The Walla Walla and Columbia River Railroad, constructed in 1874-75 from Wallula to Walla Walla, became another link. The road connected viable steamboat transportation at Wallula to the great wheat belt of southeastern Washington. Geographer Donald W. Meinig has noted: 'Though long building, this little narrow-gauge was an instant success for its builder and an important stimulus to farming expansion. Settlers moved south into the vacant lands in the Oregon sector of the valley and north toward Dry Creek and beyond." To continue its hold on transportation, the Oregon Steam Navigation Company in 1877 purchased this line. It had increased its Columbia River traffic since 1875 by placing four additional steamboats on the run between Celilo and Wallula. This made a total of six of its ships plying that section of the Columbia (Meinig 1968:242, 251, 256).

In the late 1860s Collis P. Huntington, Charles Crocker, Leland Stanford, and Mark Hopkins emerged as principals in the Union Pacific and Central Pacific railroads. Facing the rugged terrain of the Sierras as well as the necessity to find laborers to construct by hand hundreds of miles of right-of-way, they persevered and secured massive federal land grants and loans to build their lines. The two railroads joined in 1869 at Promontory Point, Utah. The route became highly significant in the development of the Columbia Basin in the latter nineteenth century. Not

only did its depots and warehouses at Kelton and Corrine feed supplies into the Snake watershed, its sidings and loading chutes became important points for export of cattle, horses, and sheep from the stockraisers all across the Columbia Basin.

The Northern Pacific Railroad, chartered in 1864, was another beneficiary of congressional largess in the Civil War era. To encourage the building of this line from St. Paul to Puget Sound, Congress granted the company 60,000,000 acres--an area six times the size of New England. When the company violated some of the terms of its grant, it was penalized acreage. Nevertheless, the Northern Pacific eventually secured 39,000,000 acres--twice the amount awarded to any of sixty-one different land-grant railroads subsidized in the years 1862-71. The Northern Pacific swept westward across the Great Plains, crossed Montana looping north of Lake Pend D'Oreille, reached Spokane and turned southwesterly to Pasco. There it crossed the Columbia and moved via the Yakima Valley and Ellensburg to cross the Cascades at Stampede Pass to Tacoma. Politicians, investors, and laborers celebrated completion of this transcontinental line with a spike ceremony at Gold Creek, Montana, on September 8, 1883 (Schwantes 1989:139-147). Its route over the Cascade Range was not completed until 1887 (Bancroft 1890:387).

Henry Villard, a German-born journalist, had orchestrated the ambitious efforts of the Northern Pacific Railroad. Supported by German investors, in the 1870s Villard first bought out the Oregon Steam Navigation Company. Having secured that corporation's key portage rights-of-way, he began construction of the Oregon Railway & Navigation Company's line via the Columbia Gorge. The OR & N extended east to Wallula and there joined the Walla Walla and Columbia River Railroad to tap the wheat country. The Oregon Short Line, a subsidiary, built southeasterly in 1884 via the Blue Mountains to

Huntington, Oregon, where it connected with the Union Pacific. The UP line led east from Weiser along the north bank of the Snake River to Pocatello. There it turned south to connections in Utah and in Wyoming. (Schwantes 1989:154-155).

The subsequent history of rail transportation in the Columbia Basin was a process of rapid filling in of feeder lines. Some investors had ambitions of linkages south to Utah, Nevada, and California, while others like James J. Hill envisioned and built yet another transcontinental line. Hill's Great Northern reached westward from St. Paul to Puget Sound in 1893. In the meantime investors in Montana--arguing that a million a year was expended for freight wagons on the route north form the Union Pacific at Corinne, Utah, founded the Utah Northern to construct a line for 300 miles. This railroad reached the Snake River and continued on through the Marsh Valley and Port Neuf in 1881 to Helena (Bancroft 1890:684-687). The Columbia & Palouse became yet another line to build into the wheat country of eastern Washington. In the early twentieth century branch lines extended south to Friend, Bend, and Shaniko, Oregon--each opening the prospect for hauling agricultural commodities or logs and lumber. The last, major new route to penetrate the region was the Chicago, St. Paul & Milwaukee Railroad. This company extended its line westward from South Dakota to enter the Columbia Plain at Tekoa south of Spokane. The railroad extended through the Palouse country, crossed the Columbia, reached to Ellensburg, and crossed the Cascades via Snoqualmie Pass to terminate in 1909 in Seattle. That same year owners of the Northern Pacific and Great Northern completed the Spokane, Portland, and Seattle (SP & S) via the north bank of the Columbia River through the Gorge to Vancouver, Washington, and on to Puget Sound (Meinig 1989:384).

During the years 1880-1915 the railroads knit a tight skein of transportation throughout the Columbia Basin. Small depots became

warehouse sites and some blossomed into townsites. The lines sometimes drove unreasonable expectations. Each terminus saw itself as a future metropolis. When capital failed to extend the line farther or when business fell off, towns languished. A number of ambitious local entrepreneurs joined their lines to the major railroads. David Eccles, a Baker county investor, for example, built his railroad southwesterly to Sumpter then crossed the Blue Mountains to Prairie City in the upper John Day watershed . The eighty-mile long Sumpter Valley Railroad opened the pine forests of the southern Blue Mountains for logging and lumbering (Culp 1972:91-95). Similarly the Oregon Trunk Railroad opened the eastern flank of the Cascades when it built to Bend in 1911 and to Chemult in 1916 near the head of the Klamath Basin (Vaughan 1981:200-201).

Railroads in the 1880s tied the Columbia Basin to a larger world. They transformed the emigrant experience. A trip which heretofore had taken four to six months became possible in five days. The railroads made possible the shipment of heavy farm and industrial equipment, the movement of massive stockpiles of wheat and wool, or the hauling of cattle, lumber, and canned salmon to national and world markets. An investor with capital might purchase by "mail order" a prefabricated house, take delivery of it at the depot, and erect it according to standard plans in almost any town served by a rail line. The railroads brought the region into the nation's economy. Misfortunes in distant bond markets and financial ups and downs reverberated through the small communities of the interior of the Pacific Northwest. High hopes and dismal prospects rode the rails with the advent of transcontinental ties.

The road system of the Columbia Basin remained rudimentary and problematic. Freighters coped with sand, ravines, snows, freshets, and minimal development. Many routes for several decades were little more

than pack trails and served single-file mules better than wagons or horse-drawn stage coaches. Neither the territories nor the states in the Pacific Northwest viewed roads as their responsibility until World War I. If roads were to be built, either they were the original military routes, the land-grant military wagon roads, or local market roads. The vast majority of the region's roads were of the latter category. This meant that each county assumed the responsibility for surveying, grading, and maintaining a route. In times when heavy equipment was largely lacking, roads remained mostly traces, cutting across the sage plain, fording rivers, or cutting awkwardly around sidehills. Travelers faced miles of difficult travel. The pace was slow and the trials many.

In the second decade of the twentieth century the automobile became a major, new force in the region's transportation. Where steamboats and locomotives had dominated for six decades, the internal combustion engine began a rapid takeover. The advance of automobile and truck traffic, however, was a function of highways. The dropping price of vehicles--a Ford Model T at $440 in 1915--persuaded thousands that they could shift from horse and buggy to automobile. These events fed the "good roads movement" and coincided with the remarkable success of the region's first paved highway (Schwantes 1989:291).

Samuel Hill, visionary and owner of thousands of acres of grasslands in Klickitat County, Washington, dreamed of linking his lands with a highway via the Columbia Gorge. Hill's interests coincided with those of Oregonians who in 1909 began pressing for a new road through the Columbia Gorge. Hill had enticed Samuel C. Lancaster, a well-known engineer in Tennessee, to move in 1906 to Washington. Simon Benson, a lumberman and philanthropist, shared Hill's interest and in 1912 gave $10,000 toward construction of a portion of such a route. Plans and support unfolded rapidly. Lancaster, who had examined highways

in Europe with Hill, secured the job of designing the route. Various fund-raising ventures raised the capital and, in spite of opposition, the backers proceeded with construction. A $1.2 million bond issue proved critical and with that the workers laid bitulithic Warrenite pavement over the route. The Columbia River Highway became the region's first paved, rural roadway upon its opening in 1916 (Fahl 1973:101-118).

The paved, sea-level highway through the Gorge, as had predecessor developments in transportation, became another turning point in the transportation history of the Columbia Basin. In 1913 the Oregon State Highway Commission commenced its work. Under a new mandate in 1917, the Commission gained financial responsibility to survey and construct primary and secondary state highways (Fahl 1973:136). Oregon in 1919 led the rest of the nation in these efforts with the levying of a gasoline tax to finance road construction. With the slogan "Lift Oregon Out of the Mud," the good roads proponents had resources to get about the task. Washington imposed a gas tax in 1921 and Idaho did so in 1923. The popularity of automobiles grew unabated. Carlos Schwantes has observed:

> During the interwar years the region's highway network expanded at a rate never since equaled. During those two decades the mileage of hard-surfaced all-weather roads increased in Idaho and Washington by nearly 300 percent and in Oregon by nearly 250 percent. The Pacific Northwest contained a total of twelve thousand miles of roads in 1940 (Schwantes 1989:291-292).

The state road systems consisted of east-west highways with primary north-south routes running along the eastern flank of the Cascades from the Okanogan to the Klamath Basin; another from northern Idaho via Moscow and Lewiston to Payette where the route veered southwesterly to Jordan Valley and to McDermitt, Nevada; and a third from Kalispell via the Clark Fork to Butte, then south via Idaho Falls

and Pocatello to Ogden, Utah. The east-west routes took on national significance in the 1950s with the construction of I-84 across the Columbia Basin from Portland to the upper Snake watershed and of I-90 from Seattle to Spokane and on to Missoula, Montana. These routes and that of I-15, the north-south freeway joining Salt Lake City to Butte Montana proved highly significant in the movement of freight and travelers throughout the Columbia Basin. Interstate haulers of freight and bus passengers, private vehicles, and increasing numbers of tourists found these carefully engineered and maintained roads an efficient way to travel to the far places of the region's interior.

While counties and states invested in market roads and highways, the U. S. Forest Service launched its road programs in the 1920s. The Department of Agriculture identified three road types: ordinary duty, light duty, and motorways. With grades not to exceed ten percent, widths set at nine feet, and turnouts to be at least seventeen feet wide, the system was rudimentary but significant. In 1924 the U.S Forest Service assessed its road program in the state of Washington: "Many regions have been opened up by Forest Service roads," it noted, "and when the present plans are completed there will be over 2,000 miles of good roads in the national forests of Washington." Between 1916 and 1923 the Forest Service in Washington expended $3.3 million in federal funds on roads. The Forest Service also launched a program to mark all stream crossings by name and all crossroads with names or numbers of roads and mileage information. This program evolved from horse-drawn scrapers and hand labor to a full-scale forest highway program following World War II (Mosgrove 1980:139-142; U.S. Forest Service 1924).

Another aspect of transportation developed with large appropriations to fund the labors of the Army Corps of Engineers. This included the prolonged construction project between 1878 and 1898 to build the canal and locks to bypass the Cascades of the Columbia and

the construction between 1905 and 1915 of the eight and one-half-mile-long canal and five locks around Celilo Falls. Subsequent dam and lock projects along the main stem of the Columbia River and the Snake between 1935 and 1965 created an internal waterway system making Lewiston, Idaho, a port and opening a vast region's commerce to use federally-subsidized reservoirs and locks (Willingham 1984).

What had served for thousands of years as Indian trails and canoe routes were transformed after 1850 into a complex transportation system. The advent of steam power and corporate investment of the Oregon Steam Navigation Company coincided with the rapid expansion of settlement in the 1860s by livestock raisers and miners. In the 1880s the railroad network began to lace together the region and continued its web of connections through the 1910s. In that decade the good roads movement and popularity of automobiles led to the survey, design, and construction of modern highways. The system grew rapidly to serve the region well by 1940. In the 1950s the investment of federal dollars developed the interstate freeway system as well as an extensive forest road system. When joined with air travel and commuter service to numerous small airports throughout the Columbia Basin, the transportation links tied the interior of the Pacific Northwest to the larger national and world economies.

8. Economic Developments

The words "gold and grasslands" served well to describe the foundational economy of the Columbia Basin. The nearly parallel realizations of the prospect of mineral wealth and the potentials of the region's bunchgrass worked as lodestones to drive the region's first important economic ventures. In time, the diversification of agriculture with the development of wheat, potatoes, and orchard crops gave greater stability and permanence to those who drew their livelihood from the land. The placer deposits played out and yielded to lode mining and capital investments in industrial processing of ores. Once a railroad transportation system was in place, logging and lumbering emerged as new industries. Ultimately manufacturing--including the processing of agricultural commodities--found a hold. The construction of highways furthered tourism and recreation and became yet another player in producing income and sustaining communities.

Collectively these ventures over the past century and a half have played lead roles in the economy of the far-flung Columbia watershed. Within that area, however, have been the bread-and-butter ventures of retail sales, banking, real estate, and delivery or professional services. Residents of the region have demanded and received education, medical care, legal assistance, finance and loan programs, and a variety of governmental services. These have ranged from agricultural extension to administration of wildlife refuges and national forests. They have included implementation of federal defense initiatives to building public power projects. To a large extent much of the region's economy has been a direct function of the commitments investments of Congress. Large federal land ownerships in Idaho, Oregon, Montana, and Wyoming have played centrally in the actions of the congressional delegations about when, how, and where to invest resources in public programs.

The federal land policy for a century was premised on disposing of the national domain and getting much of it, as fast as possible, into private ownership. The Pre-Emption Act and Donation Land Act had little impact in the Columbia Basin. The Homestead Act, Desert Land Act, Stock-Raising Homestead Act, and Enlarged Homestead Act, however, enabled thousands of livestock owners and farmers to secure a base from which they then could tap the vast public lands surrounding their holdings.

Initially livestock raising offered many attractions. Cattle, horses, and sheep could walk to market, or, at least to shipping points, from places far distant from railroads or urban areas. The bountiful bunchgrasses which thrived in the oasis settings of the northern Great Basin as well as more than holding their own in more arid portions of the Snake Plain and Columbia Plateau worked magnetically in the 1860s and the 1870s to draw investors. From initial itinerant herding where the region was perhaps perceived as a vast "summer pasture," there came a quick transition to ranches and farms. The goal of most was to secure a base of operations with dependable water supplies and the ability to cut and store sufficient hay to feed livestock during the winter. If an investor could gain such a base, thousands, or even tens of thousands of acres of surrounding grasslands might then become part of the "virtual ranch." Although such properties remained in public ownership, few competitors could work them and survive. Holding the "base" created the advantage which has sustained many cattle operations to the present day.

The advance of the livestock frontier occurred throughout the entire Columbia Basin and northern Great Basin almost simultaneously. The Tenth Federal Census, 1880, included Clarence W. Gordon's "Report on Cattle, Sheep, and Swine, Supplementary to Enumeration of Live Stock on Farms in 1880." Gordon addressed lands east of the main stem

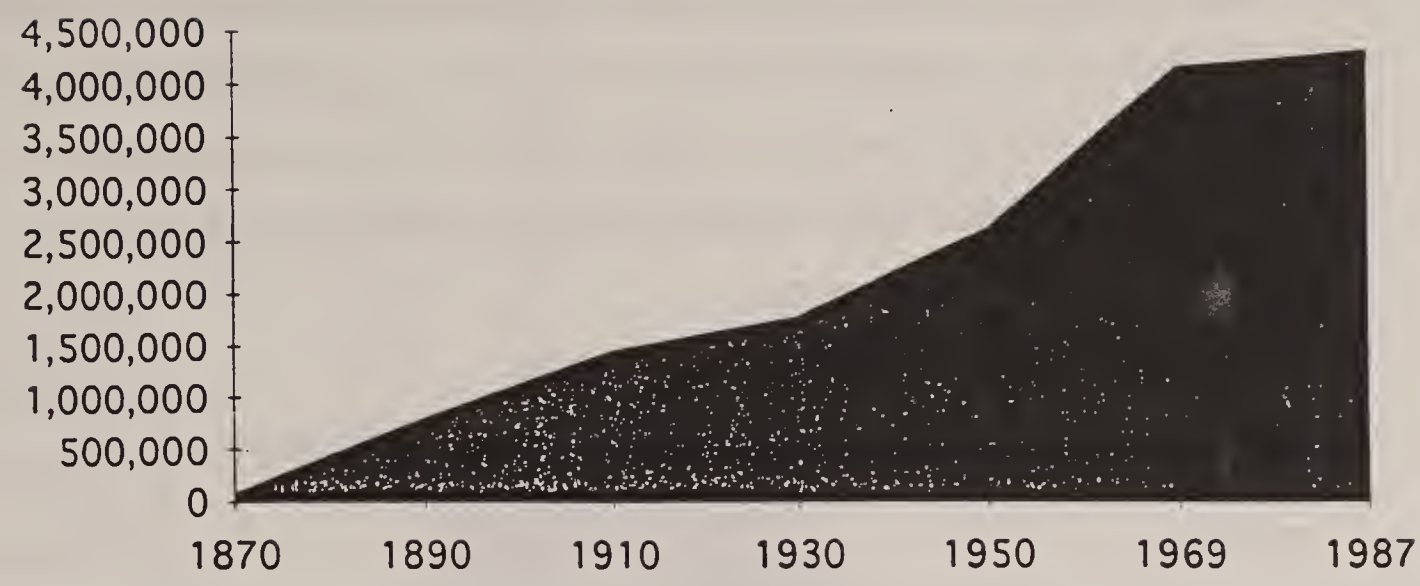
of the Columbia:

> The southeast portion of Spokane and Whitman counties, or about one-fifth of the entire section of the great plain of the Columbia, comprising all that country bordering the Palous river and its tributaries, is, perhaps, the best pasturage of the territory, but is rapidly passing into the possession of farmers. Bunch-grass is here abundant. The middle part of Whitman county along the main Palous and the higher country in the east furnishes superior summer range, from which stock can pass in winter to the milder and drier pastures of western Whitman (Gordon 1883:1089).

The expansion of livestock raising in the 1870s, particularly, included the watersheds of the Harney Basin, Warner Valley, Klamath Basin, Crooked River-Ochoco country in Oregon, the Snake Plain and tributaries such as Raft River and Cassia Creek in Idaho, and the stream courses of the Wenatchee, Methow, Okanogan, and other rivers draining the eastern slopes of the Cascades in Washington (Oliphant 1968:75-114).

Cattle have dominated in livestock production throughout the Columbia Basin since the first collection of agricultural data in the Census of 1870. In the 91 counties of the subject area in 1870 the enumerators identified 75,636 head. Twenty years later that figure had multiplied tenfold to 792,501 head. These figures confirmed what the contemporary newspapers noted and what historians of the range industry have assessed. Transcascadia grew dramatically as a livestock area in the latter half of the nineteenth century. The industry continued to thrive, however, and the numbers of cattle doubled again to 1.4 million head by 1910. Four decade later in 1950 the subject area possessed 2.6 million head of cattle. Over the next nineteen years the herds grew by 1969 to 4.1 million head. In 1987 the 91 counties reported 4.3 million head of cattle (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987). [See Appendix, Agricultural Production: Cattle.]

Graph 1. Cattle Production, 1870-1987



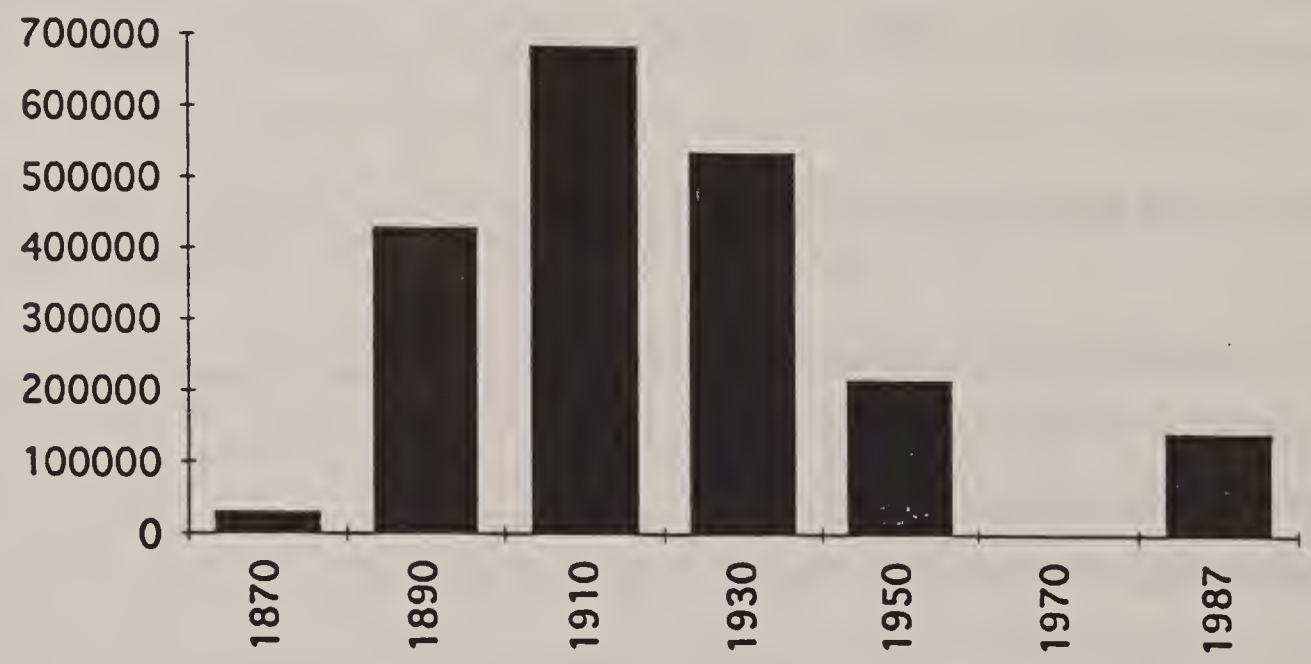
(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

The ranges between the Cascades and the Bitterroots and Rockies were also an environment productive for horses. In the early eighteenth century the Indians of the region obtained horses and rapidly expanded their herds. The Cayuse, Walla Walla, Umatilla, Palouse, and Nez Perce became famed as horsemen and grew wealthy from the fine stock which thrived on the grasslands in their tribal areas. The Hudson's Bay Company established its horse farm in the 1820s on the lower Walla Walla River. That area became the source of the horses which served Ogden's Snake Country brigades as well as those which worked the coastal region and crossed over the mountains to the Sacramento Valley of California. Horses played an important role in human transportation until the 1920s. The interior of the Pacific Northwest emerged as a major supplier of horses until they were displaced by automobiles and trucks in the transportation business following World War I.

While not as dramatic in production numbers as cattle, horses

played an important role for nearly six decades in the Columbia Basin's livestock industry. They numbered 30,382 head in 1870 and grew fourteen-fold to 427,209 head in 1890. Production peaked in 1910 at 683,199 head and dropped steadily. The 1987 agricultural census identified only 143,231 head of horses in the 91 counties (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987). [See Appendix, Agricultural Production: Horses]

Graph 2. Horse Production, 1870-1987

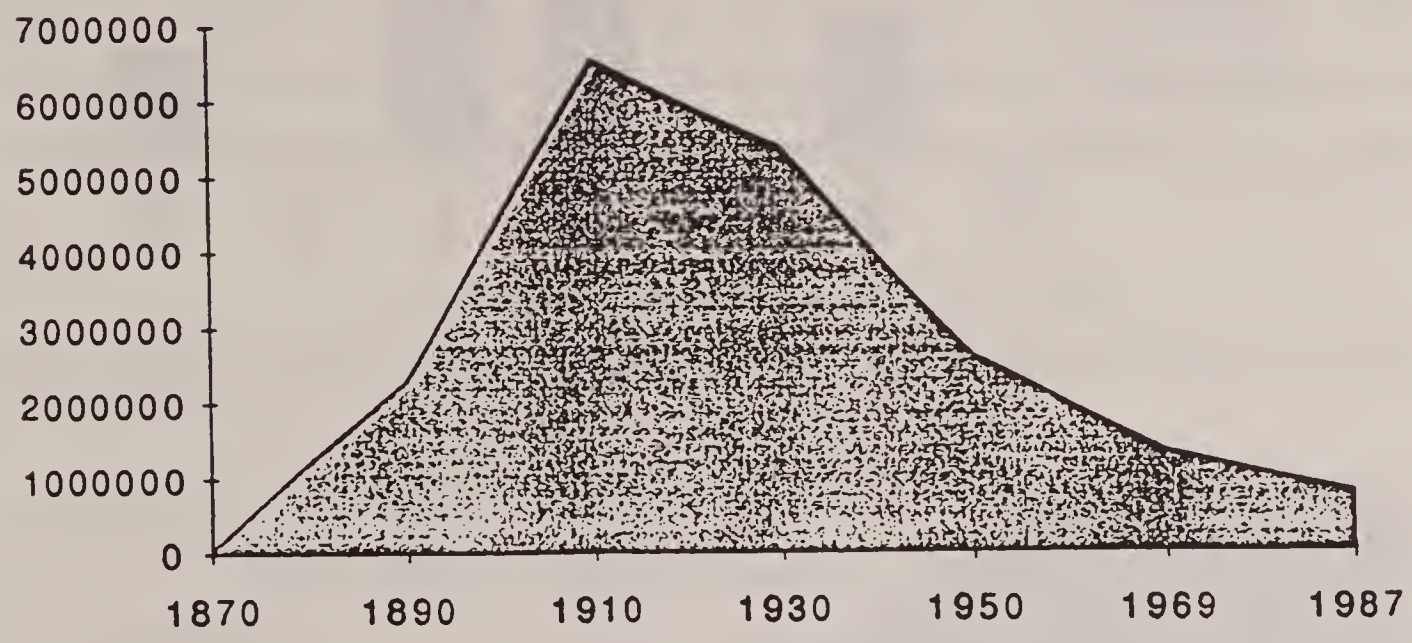


(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987)

Almost parallel to horses was the rise and decline of sheep production. Producers had 64,342 head in 1870; that figure grew thirty-five times to 2.3 million head in 1890 and peaked at 6.5 million head in 1910. Sheep continued steady decline after 1930 and numbered 2.6 million in 1950, 1.3 million in 1969, and only 793,014 head in 1987. Undoubtedly the market as well as the impact of the Taylor Grazing Act of 1934 and the closing of the public domain to itinerant sheep drovers contributed to the decline of this production in the subject area. Other factors in recent years are the environmental regulations which govern

sheep slaughtering facilities. These have discouraged both slaughterhouse operators and sheep raisers (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987). [See Appendix, Agricultural Production: Sheep]

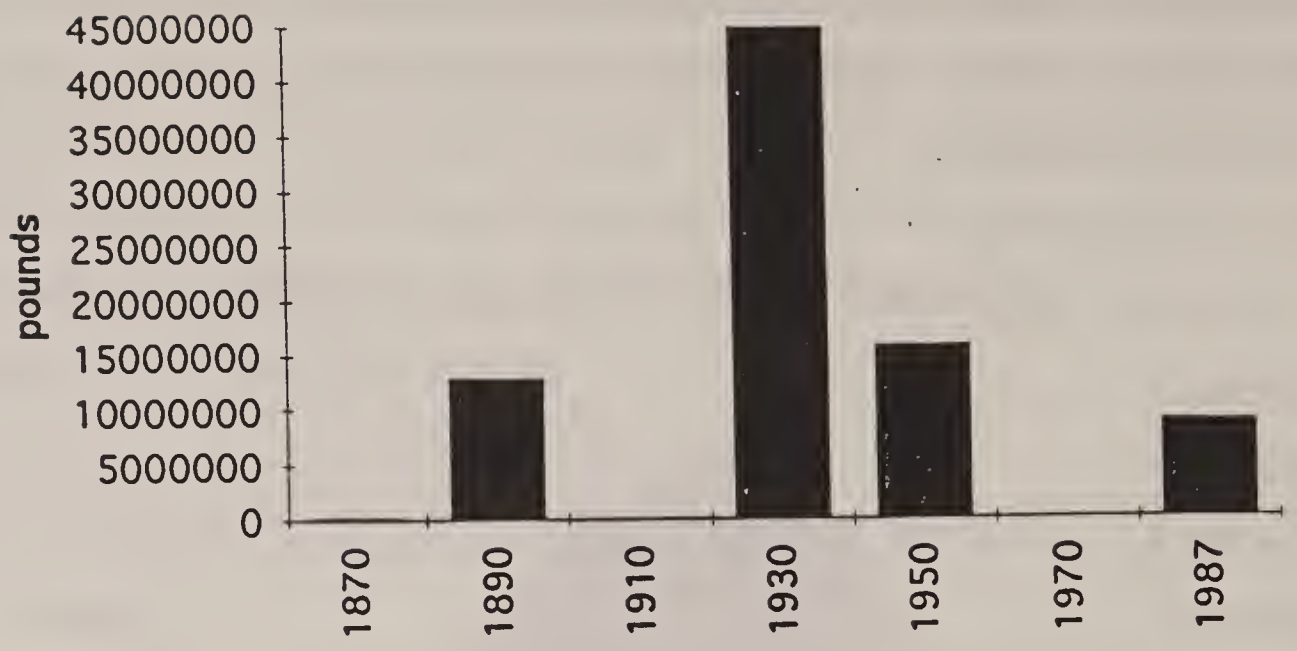
Graph 3. Sheep Production, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

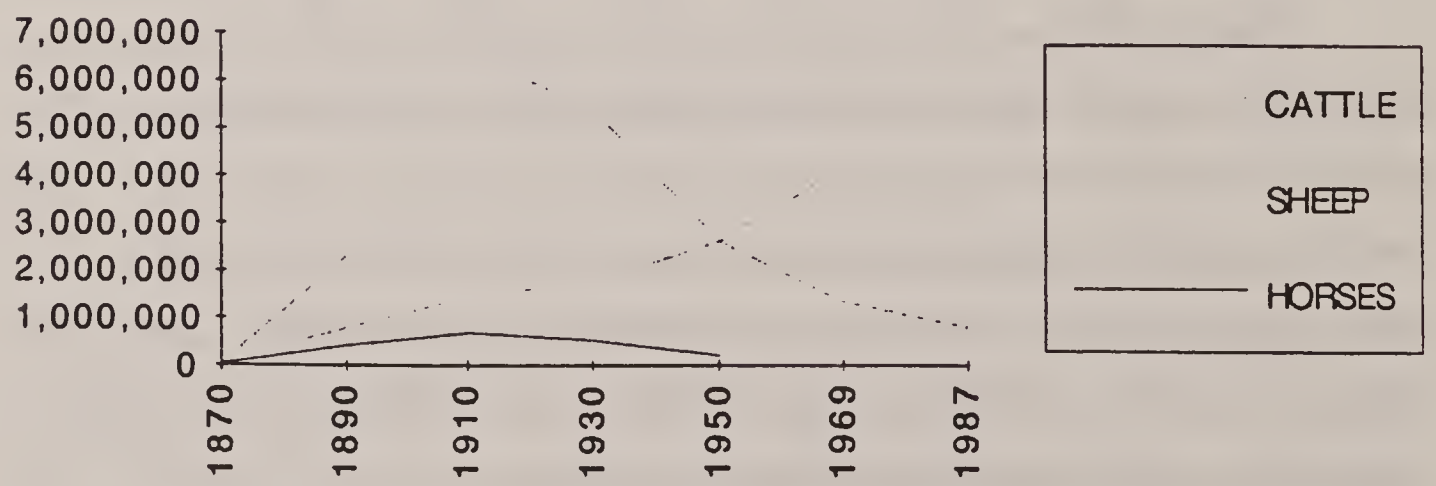
Sheep yield two primary products--meat and wool. While wool production figures are incomplete (missing for 1910), the sale of wool proved important as it grew from 194,977 pounds in 1870 to 12.8 million pounds in 1890. This production peaked at 44.7 million pounds in 1930 and dropped nearly four-fold to 8.8 million pounds in 1987 (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987). [See Appendix, Agricultural Production: Wool (lbs.)]

Graph 4. Wool Production, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

Graph 5. Livestock Production, 1870-1987



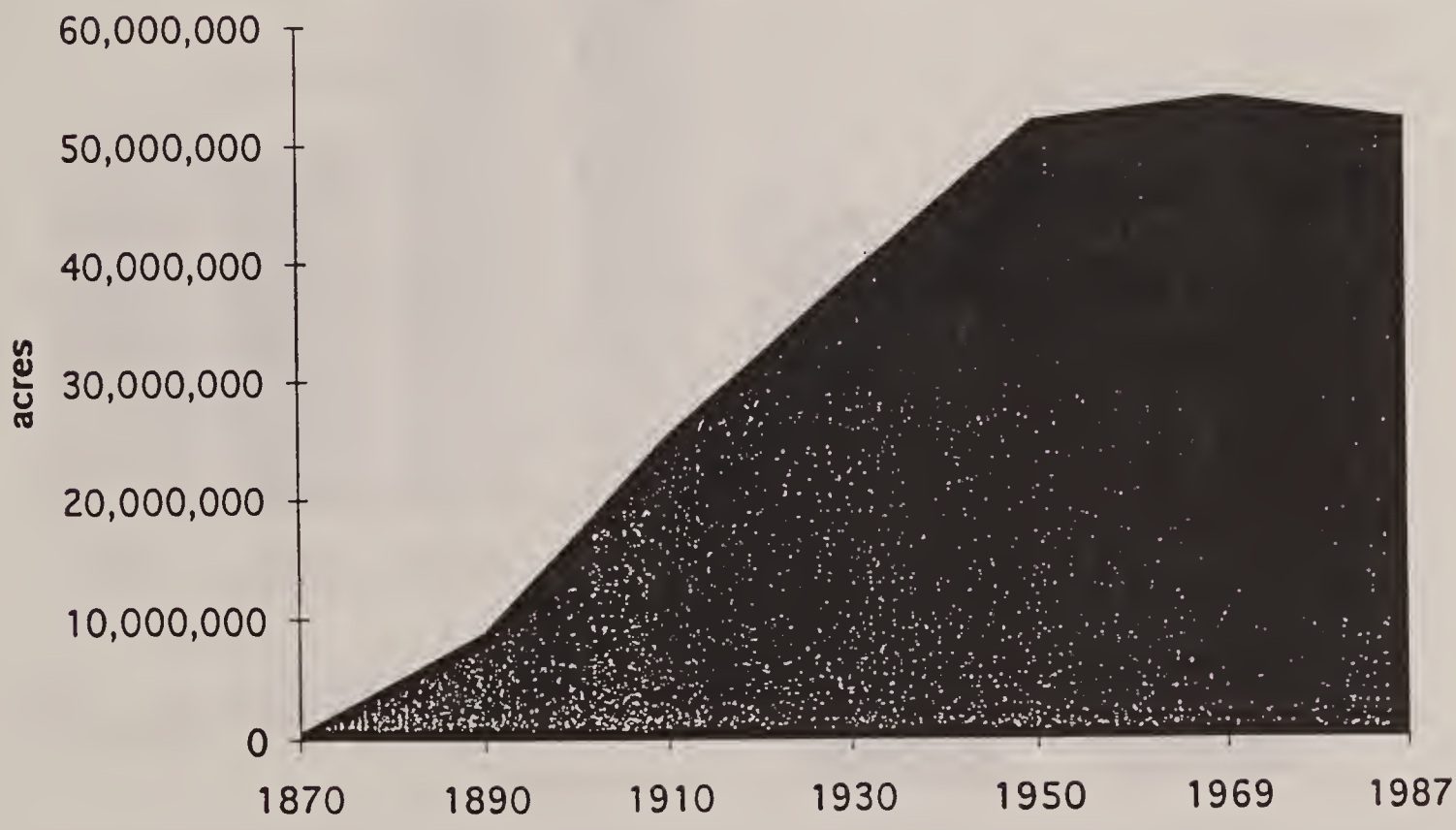
(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

Graph 5 compares the trends in production of the three leading forms of livestock in the subject area over a period of 120 years. The

figures show the relatively small number of horses compared to sheep and cattle. They also show the steady falling off of sheep and the rising importance of cattle in the livestock economy of the Columbia Basin.

The agricultural component of the economy is mirrored in the number of acres in farms. While all of these acres are not "improved" or in crop production, they illustrate the dramatic transfer of lands from the public domain to private holdings subsequent to 1890. Indeed in the inter-montane Pacific Northwest the boom years of the Homestead Act were in the period 1910-30. [See Appendix, Land in Farms (acreage)]

Graph 6. Acres in Farms, 1870-1987



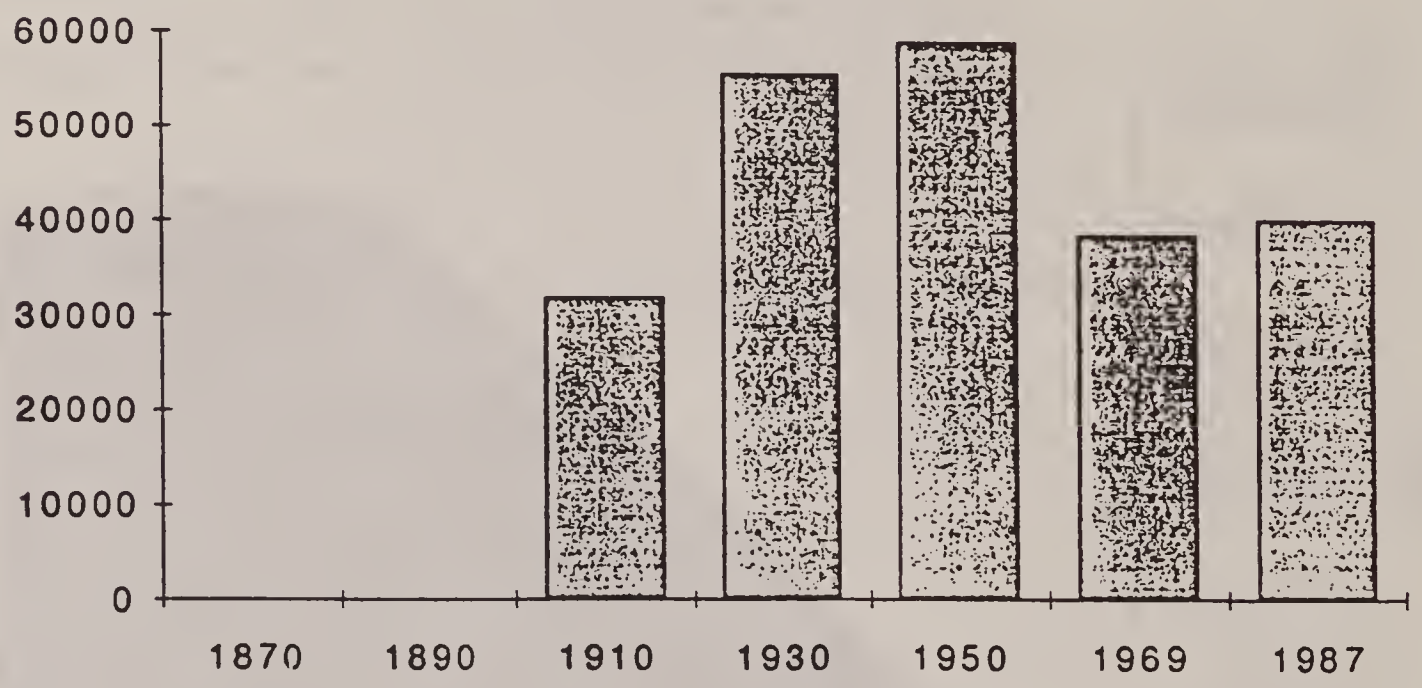
(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

Graph 6 confirms that from a little over a half million acres in 1870, the acreage in farms grew to 25.3 million acres in 1910 and doubled over the next forty years to 51.9 million acres in 1950. The number of acres topped out in the 1960s with 53.9 million acres in 1969 and dropped to

52 million acres in 1987 (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987).

A bit more problematic but nevertheless useful is the statistical information on the number of irrigated farms. The problem with the data is that it does not identify the number of acres irrigated, only the number of farms. The figures confirm the impact of private and public irrigation projects subsequent to the passage of the Newlands Act in 1902.

Graph 7. Number of Irrigated Farms, 1870-1987



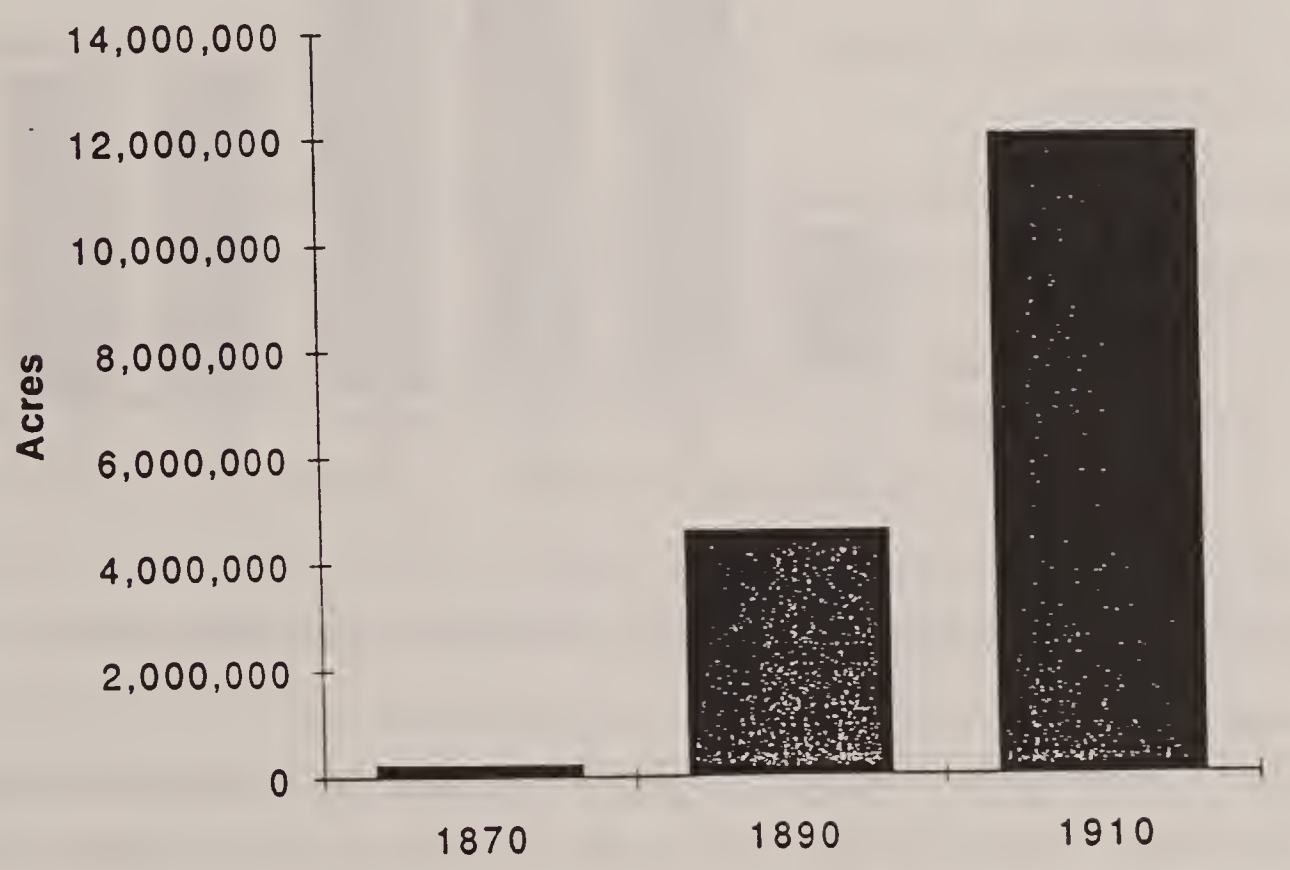
(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

Irrigation, or course, had been underway in parts of the Columbia Basin as early as the 1880s. Most of the nineteenth century projects, however, were small, often consisting of hand-dug ditches irrigating a bottom land of thirty acres or less. Cooperative ventures and federal projects mounted by the Bureau of Reclamation grew rapidly in the twentieth century. From just over 31,000 farms under irrigation in 1910, the number grew to 58,865 in 1950. While it dropped by nearly 20,000 farms in 1969,

that figure probably represents a consolidation of ownerships, not a decline in acres under irrigation (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987). [See Appendix, Number of Irrigated Farms]

The Bureau of the Census through 1910 recorded data on the number of improved acres in farms. These figures provide an interesting check on the data in Graph 6 and reflect a bit more realistically the portions of private holdings under the most intensive agricultural development. The data does not identify whether or not fenced range areas were considered "improved."

Graph 8. Improved Acres in Farms, 1870-1910



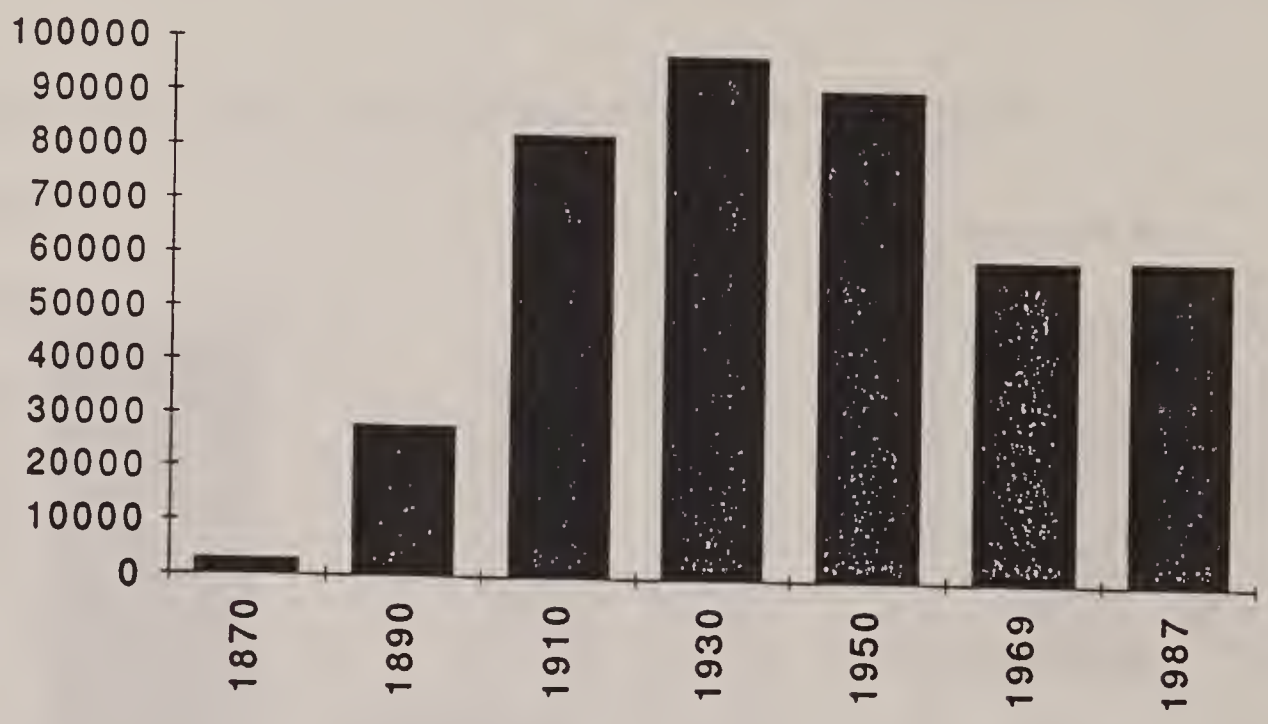
(Bureau of the Census 1872a, 1895a, 1913a)

In the subject area the improved acreage grew from 245,228 in 1870 to 4.5 million in 1890 and to 12 million in 1910. [See Appendix, Improved Land in Farms (Acreage)] The appendix confirms that many counties in the subject area lagged in improvements and that of the totals of improved acres in Oregon and Washington, the agricultural regions west

of the Cascades were clearly in the lead through 1910.

The number of farms in the subject area grew dramatically between 1870 and 1910, slowed, and peaked in 1930. The number of farms then declined and leveled out in the 1960s. These changes confirm the consolidation of ownerships and a shift to larger holdings. In some instances they document the growth of agri-business or the corporate holdings of farm property.

Graph 9. Numbers of Farms, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

From a modest 2,977 farms in 1870, the number of farms grew to 97,370 in the subject area in 1930. The figure held at 92,176 in 1950, then declined sharply to 60,031 in 1969. [See Appendix, Number of Farms] The appendix confirms that Idaho, in particular, was a setting for rapid consolidation of ownerships. The number of farms dropped from 40,284 in 1950 to 25,475, a decline of 63% in less than two decades.

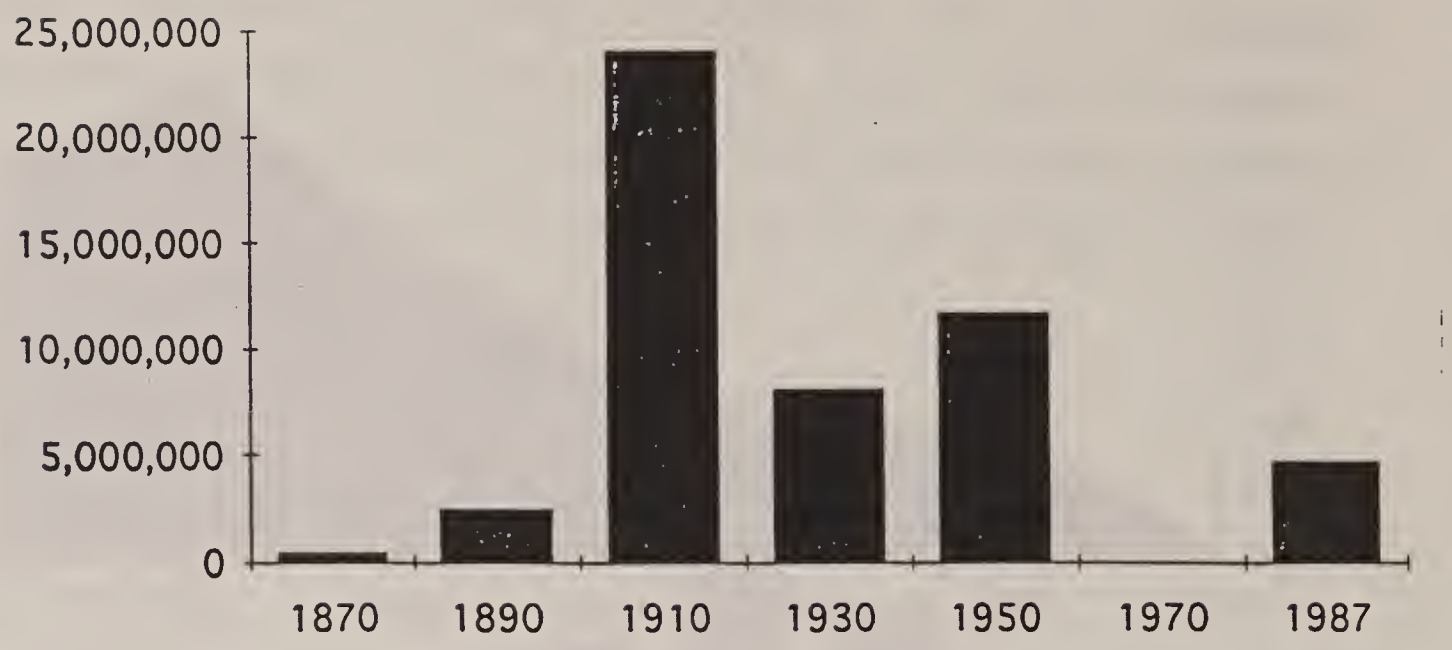
Graph 10. Average Acres Per Farm, 1870-1987

(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

The average acres per farm confirms the reduction in the number of farms but a concomitant growth in size. In 1890 the average size of farms in Idaho, Wyoming, Montana, Washington, and Oregon was 380 acres. This figure increased to 593 acres in 1930, grew to 960 acres per farm in 1950, and grew yet again to 1,463 acres per farm in 1969. [See Appendix, Average Acres Per Farm] The size of farms decreased slightly after 1970 and averaged 1,235 acres in 1987. Eastern Oregon, eastern Washington, and Montana especially have larger farm sizes in modern times than in Idaho (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987).

Cereal crops have bulked large in agricultural production on farms in the subject area. Oats emerged as an early leader in cereals.

Graph 11. Oat Production, 1870-1987



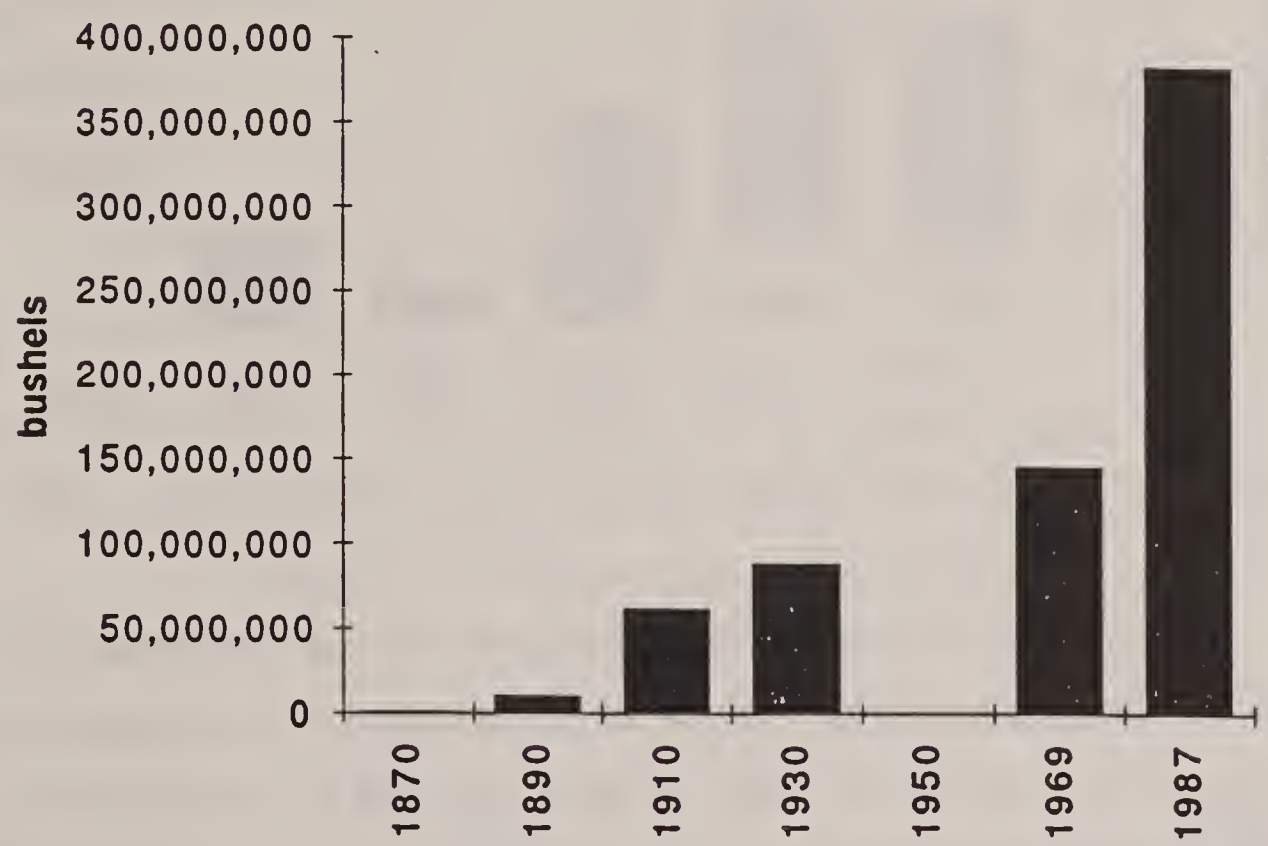
(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987)

Oat production began modestly. In 1870 producers reported 464,125 bushels. Twenty years later they reported 2.4 million bushels. That figure expanded tenfold to 24.1 million bushels in 1910. Oats then fell to 8 million bushels in 1930, 11.6 million bushels in 1950, and 4.7 million bushels in 1987. A probable cause in the precipitous decline of oat production was the parallel falling off of raising horses (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987). [See Appendix, Agricultural Production: Oats (bu)]

As oats declined, wheat came into its own as the premier cereal crop of the Columbia Basin. From a modest 362,916 bushels in 1870, production grew to 61.7 million bushels in 1910. In 1969 it stood at 145 million bushels and in 1987 reached 384 million. The presence of loess soils and ideal weather conditions--intense heat during weeks of long, sunny days--led farmers to invest heavily in the machinery to sew and harvest this crop. They found an ideal wheat belt reaching from Wasco County, Oregon, on the west, across the Plateau to Umatilla County,

Oregon, and then running northeast into the high-yield Walla Walla and Palouse region. The presence of rail and river transportation made it possible for wheat producers to sell in a national and international market. [See Appendix, Wheat (bu)]

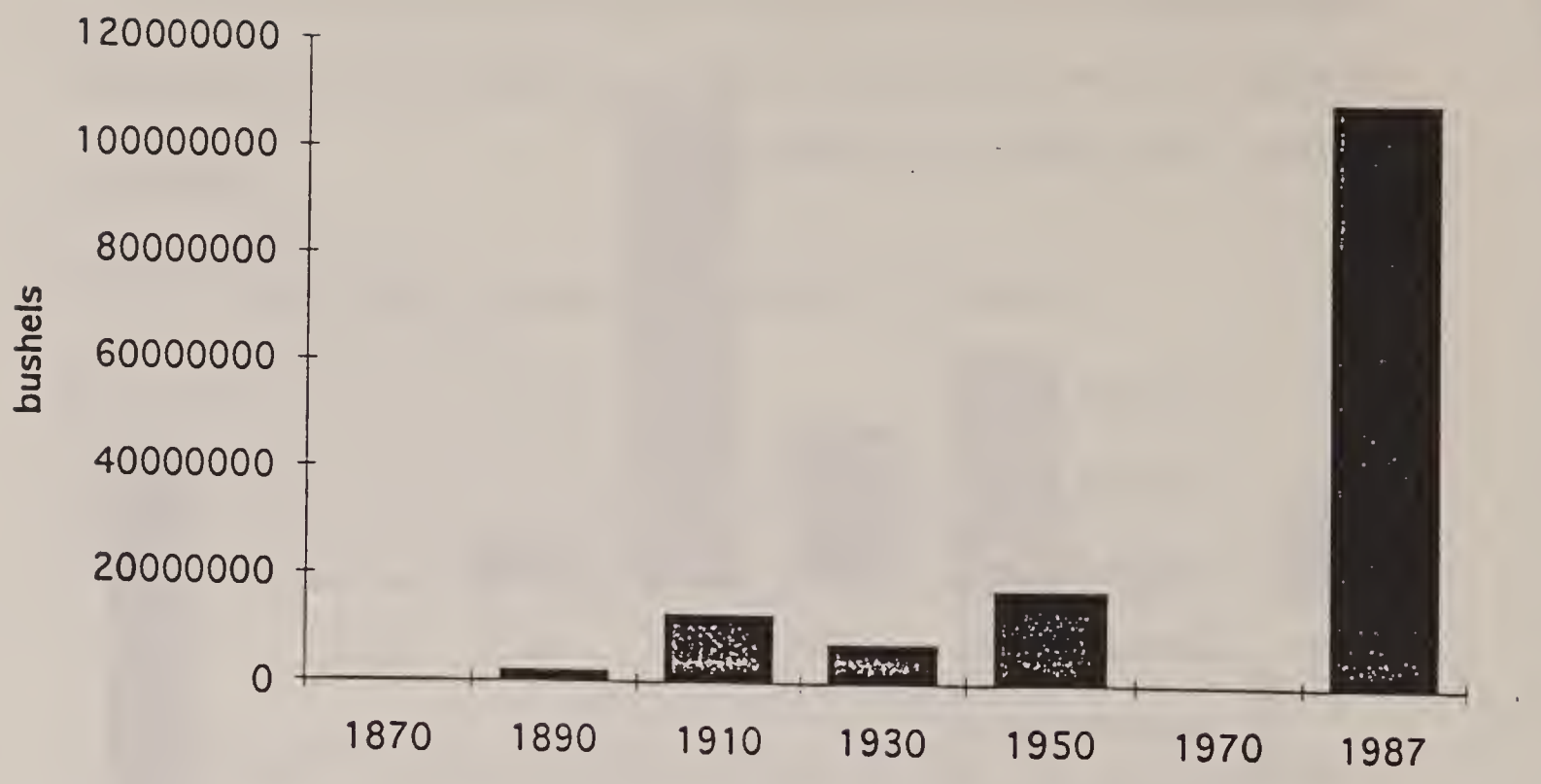
Graph 12. Wheat Production, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1972a, 1987)

A third cereal crop--barley--has also emerged in the region's recent agriculture. Barley production remained small and only in 1950 reached 17.4 million bushels. By 1987, however, it had grown dramatically to 109.5 million bushels. [See Appendix, Barley (bu)]

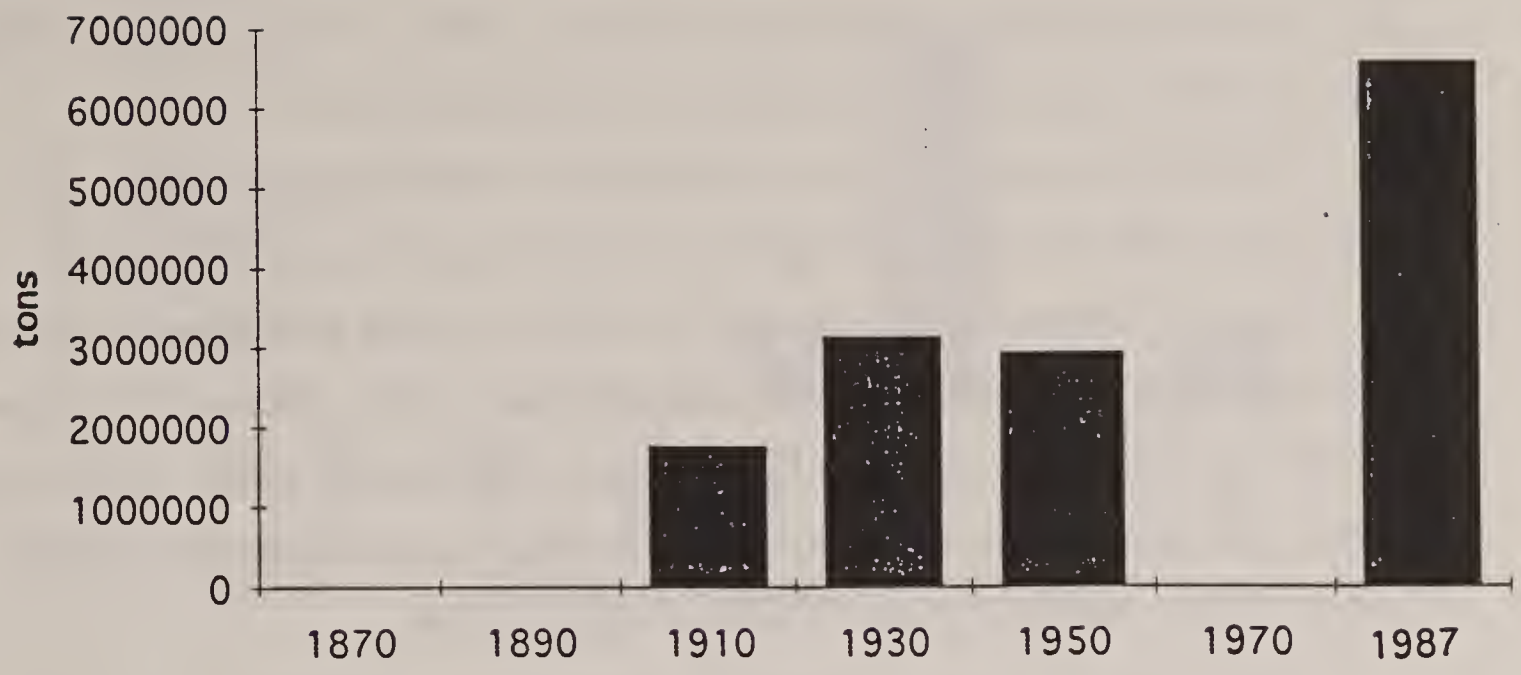
Graph 13. Barley Production, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987)

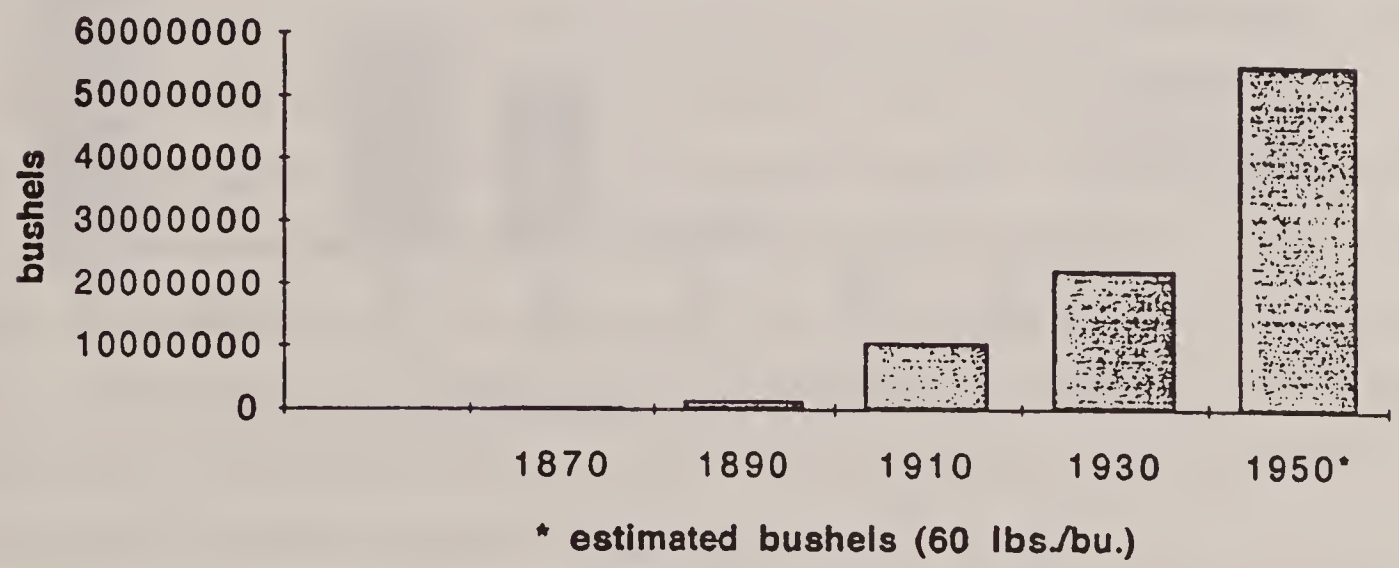
A number of farmers have concentrated on the production of alfalfa. The growing importance of cattle raising has fostered a local and regional market for alfalfa since World War II. The advent of irrigation sprinkler systems and the ability to secure three to five cuttings in a season encouraged production of this crop. Alfalfa had a market locally as well as by export on flatbed trucks to feedlots west of the Cascades and in California. Production grew from 2.9 million tons in 1950 to 6.5 million tons in 1990 (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987).

Graph 14. Alfalfa Production, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987)

Graph 15. Potato Production, 1870-1950



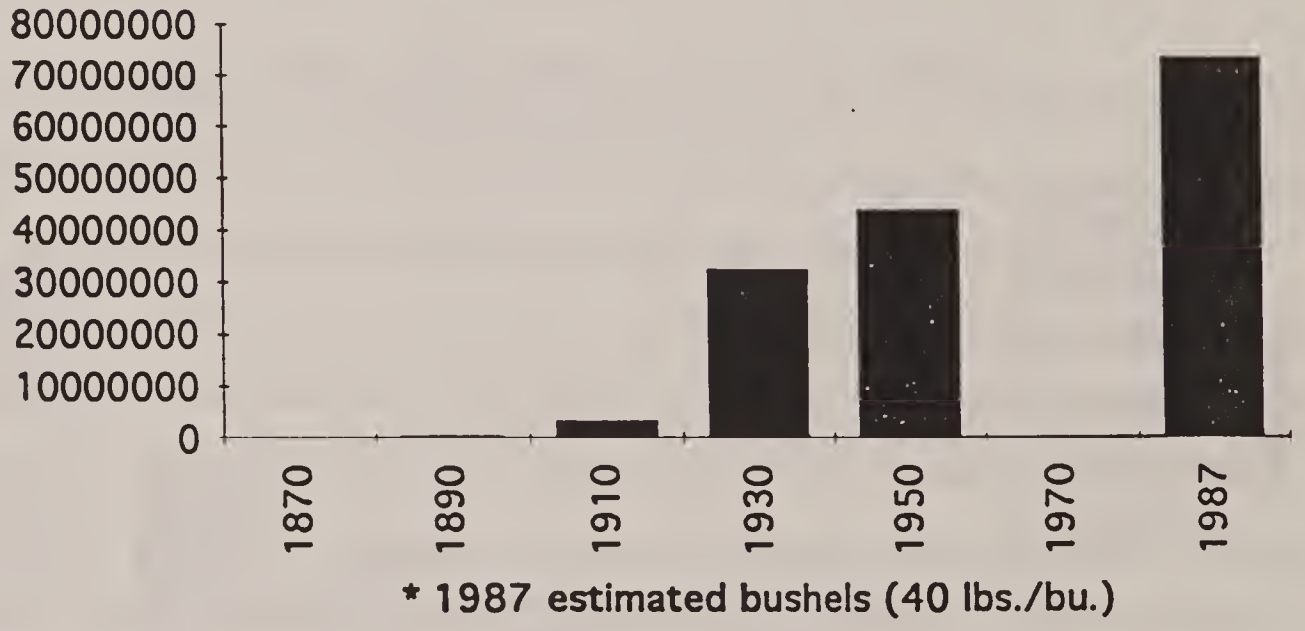
(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a)

Idaho emerged early in the twentieth century as a leader in the production of sugarbeets and potatoes. Potatoes have continued a highly important crop in Idaho's economy and have also played a role in

other parts of the Columbia Basin. Production grew from 10.6 bushels in 1910 to 55.2 million bushels in 1950. In 1987 Idaho, alone, produced 99.3 million bushels (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a). [See appendix, Agricultural Production: Potatoes (bu)].

The eastern slopes of the Cascades in Washington proved remarkably well-suited for orchards. The Yakima, Wenatchee, and Okanogan watersheds, in fact, gained fame for their fruit crops. Apples have led in this industry as it has emerged since 1930. Production grew tenfold from 3.3 million bushels in 1910 to 32.4 million in 1930. In 1990 the subject area produced an estimated 73 million bushels (Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987a).

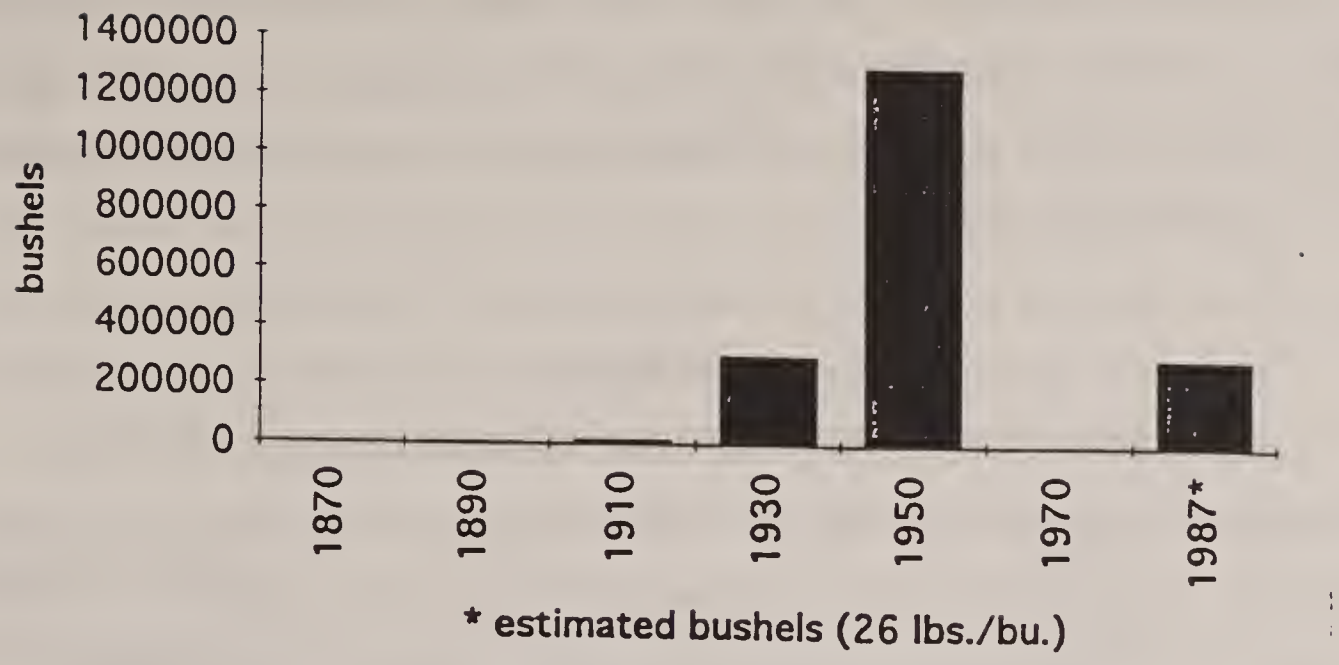
Graph 16. Apple Production, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987)

Orchardists have also raised cherries, pears, and apricots. Some of these fruits have had rising and falling popularity and success. Apricots, for example, went from 304,352 bushels in 1930 to 1.2 million bushels in 1950. Production then fell to 299,735 bushels in 1987.

Graph 17. Apricot Production, 1870-1987



(Bureau of the Census 1872a, 1895a, 1913a, 1932a, 1952a, 1987)

In the nineteenth century the connections between mining and agriculture were initially symbiotic. The discovery of minerals--particularly gold and silver--initiated rushes of population to far-flung parts of the Columbia Basin. Miners by the hundreds, and sometimes the thousands, poured into the diggings on the upper John Day, the Blue Mountains, Boise Basin, upper Salmon River, Clearwater region, upper Owyhee, and the Coeur d'Alenes. This hungry population was focused on a singular goal of extracting ores. By necessity they stimulated stock-raising, cereal crop production, and planting of vegetables and orchards. The mining population generated a local market, albeit often transitory, for the produce of those engaged in agriculture.

Statistical information about the yield of mineral deposits in the project area is frustratingly incomplete. Part of the problem is that the years of initial and presumably big yields predated maintenance of accurate assay records. Thus the longer term assessment of overall production is, at best, hypothetical. Mining, however, proved significant in several ways. It stimulated the spread of settlement. It fostered

agriculture. It generated a disposable export.

A partial picture of the impact of mining and the flow of gold and silver out of the Columbia watershed, most of it originating in the project area, were shipment figures of Wells-Fargo Co. and the Ladd and Tilton Bank of Portland, Oregon.

Table 3.

Gold and Silver Shipments from Portland, Oregon, 1864-1870

Year	Gold and Silver
1864	$6,200,000
1865	$5,800,000
1866	$5,400,000
1867	$4,000,000
1868	$3,677,850
1869	$2,979,137
1870	$1,797,800
Total	$29,843,787

(Brooks and Ramp 1968:9)

The flow of mineral wealth through Portland provides a fair measure on the importance of the mines of eastern Oregon and, most particularly, Idaho, for the 1860s were a period of boom production in that territory. The initial production was almost entirely placer gold. Following the discoveries of Elias Davidson Pierce, in 1860, the Clearwater district yielded an estimated $3.4 million by 1866 before dropping off to less than $70,000 per year by the 1870s. The Salmon River mines produced an estimated $9.6 million between 1862 and 1867, while the Boise Basin (an area of 250 square miles) yielded by 1866 an estimated $24 million (Greever 1963:257-266; Throckmorton 1961:247-263).

Illustrative of the impact of mining was production in Oregon. Between 1852 and 1964 Oregon produced an estimated 5.7 million

ounces of gold and 5.4 million ounces of silver valued at nearly $136 million. Approximately 73% of the production came from the mines of Baker and Grant counties. If the Malheur, Wallowa, and Union county mines were added in, it is reasonable to conclude that at least 80% of the production of these two minerals in Oregon came from the Columbia watershed. In the period 1902-65 Baker County produced 75% of the total gold mined in Oregon (Brooks and Ramp 1968:7-8).

The introduction of new technologies and opening of lode deposits renewed mining in the last two decades of the nineteenth century. Highly significant in this renewal as the opening of the mines in the Coeur d'Alene district ninety miles east of Spokane. Shoshone County in 1890 had 3,993 residents and produced an estimated $10 million in ore that year. The advent of industrial mining, however, was noteworthy in Idaho for the labor strife and violence which pitted union workers against absentee owners, mine managers, and private armies. Strikes, lockouts, murders, bombings, and imprisonments catapulted the mines of northern Idaho into notorious prominence in the 1890s (Greever 1963:274-282).

Table 4.

Idaho Miners, 1870-1930

1870	1880	1890	1900	1910	1920	1930
5,579	4,708	5,200	4,089	2,971	1,898	981

(Schwantes 1989:253)

Mining remained a problematic, extractive industry throughout the twentieth century. Miners and mine owners were beset by world competition, set values of gold and silver, national fiscal policy, and

finally by environmental regulations over water, air, and dangerous mineral releases from both shafts and processing facilities. After a century of operation the Bunker Hill Mine and smelter closed in 1981 at Kellogg, Idaho. Fewer than 400 miners remained at work in the district which had once sustained thousands (Schwantes 1989:349).

With vast stands of timber on the eastern slopes of the Cascades and the Bitterroots and Rockies, the Columbia Basin possessed a third natural resource--beyond agricultural lands and minerals--that beckoned to investors. Timber, however, took many on a roller coaster of fortune and misfortune. The industry proved heavily responsive to national trends in the economy, subject to sharp downturns when building starts dropped off or mortgage rates pushed too high, and vulnerable to freight rates. From the years of initial settlement in the 1860s into the mid-1880s, most of the logging and lumbering served only local markets. The raw material and finished product were too heavy to haul to compete even in regional construction. This situation began to change with the completion of the Northern Pacific Railroad in 1883 and the advance of the Oregon Railway and Navigation Company's line eastward to the Blue Mountains and southeast via the Oregon Short Line to connect with the Central Pacific. The railroads, indeed, provided a major stimulus to the lumber industry. Their construction created an important market for ties, trestle materials, and finished lumber for warehouses, depots, and dwellings for workers. In 1883 the Montana Improvement Company secured a twenty-year contract with the Northern Pacific to supply all of its needs for forest products from The Dalles to Miles City, Montana, and, as part of the agreement, would receiver preferential shipping rates for its lumber on the railroad (Cox 1974:201-202).

The impact of the railroad clearly helped drive the region's forest products business. From 18 million board feet of cut in 1880, production

in Idaho rose by 1890 to 31 million board feet. A writer for the ***West Shore*** in 1880 described the Clearwater River as a "floating woodyard," for logs filled the stream for dozens of miles. The log drives of the 1880s, in fact, established a system of transportation which persisted on the Clearwater for the next eighty years and were curtailed on the North Fork only with the building of Dworshak Dam. By the late 1880s the mills in the Blue Mountains in Oregon and southeast Washington were cutting up to 30 million board feet per year. Similarly the Palouse River became the setting for log drives. Workmen moved an estimated 4 million feet down stream to Colfax and Palouse City each year (Cox 1974:202).

The rise of logging and lumbering was also a function of the mineral discoveries and the need for shoring timbers, construction materials for smelters, and the boards to build housing and towns near the mine portals. Similarly, the influx of settlers engaged in farming created local markets for forest products. Spokane, Washington, became one of the important regional manufacturing centers which met these needs. In 1888 the Spokane Mill Company produced 15 million feet of lumber, 6,000 doors, and 10,000 windows. The following year Spokane had nine mills which cut an estimated 30 million feet of lumber valued at $2.2 million. Loggers supplied these plants by driven timber down the St. Joe, St. Maries, and Coeur d'Alene rivers where they were rafted across Lake Coeur d'Alene (Kensel 1968:25).

Subsequent to 1900 the fall of production from the forests of the upper Midwest persuaded capitalists to move their enterprises and employees to new regions. The northern Columbia Basin became a primary target for these activities. A scramble commenced for timberlands (Space 1974:2-5). Illustrative of what happened was construction in 1901 of the J. A. Humbird and Frederick Weyerhaeuser sawmill at Sandpoint, Idaho, and that of Michigan lumbermen at Hope on Lake Pend Oreille. In 1905 Weyerhaeuser and Wisconsin industrialists

constructed the large mill at Potlatch, Idaho, and J. P. McGoldrick of Minneapolis bought out the Fox Lumber Company of Spokane to transform its mill into the largest in that city. Idaho cut in 1899 65 million feet of lumber. In 1910 Idaho produced 745 million feet of lumber. Its markets had shifted from local to national. The railroads enabled mill owners to supply and compete favorably in the Dakotas, Nebraska, Wisconsin, Iowa, Colorado and other states (Kensel 1968:26-27).

The pine forests of the trans-montane region provided ideal materials for boxes and barrels. Their manufacture emerged in the early 1900s as an ideal complement to success of orchards and shipment of fruit to distant markets. Of lesser importance was pulp and paper manufacturing. Driving by the Kraft process, discovered in 1909, the pulp industry had far wider impact in western Washington and Oregon, though by the mid-twentieth century the forests of the interior yielded a steady supply of wood fiber shipped by rail and barge to pulp facilities west of the Gorge (Schwantes 1989:177-178).

Employment data in the logging and lumbering industry for Idaho shows the growth of those enterprises in the early twentieth century:

Table 5. Idaho Loggers, Rafters,and Sawmill Workers, 1870-1930

1880	1890	1900	1910	1920	1930
Loggers and Rafters:					
224	373	701	2,246	5,217	4,910
Sawmill Workers:					
100	237	349	2,469	2,904	4,296

(Schwantes 1989:253)

The close relationship between natural resources and economic activity is clearly evident in the inter-montane Pacific Northwest. The big three--agriculture, mining, and logging and lumbering--have figured centrally in the health and wealth of the Columbia Basin. E. R. Jackman, wrote cogently of the connections:

> Population of a valley, a state, or a region, depends directly upon the primary income. In the West, that income is usually from farming and harvesting of timber. The town that has both is in a better position than the town with just one. The money poured into the town from farms and forests supports the lawyers, doctors, grocery stores, hairdressers, service stations, and all of the other dozens of occupations. The valley that produces yearly $20,000,000 from these two primary sources will normally have twice the population of the one with $10,000,000 (Simpson and Jackman 1967:334-335).

The emergence of towns and cities and the delivery of goods and services which they performed is another important element in the economy of the Columbia Basin. The project area, however, is noteworthy for the its lack of major cities. The few are Boise, Spokane, Walla Walla, and the Tri-Cities--Pasco, Kennewick, and Richland. Boise and Walla Walla had their genesis during the initial settlement of the 1850s and the 1860s. Both served as important distribution points for goods and services to scattered populations in the regions wherein they lay. Spokane was more a creation of the Northern Pacific Railroad than the falls which initially drew investors to construct mills. Spokane grew dramatically after 1883 as additional railroads built in the region and it became a center for shipping, banking, and other services (Kensel 1968:25-31).

The Tri-Cities emerged in 1942 as a secret, federal initiative. The Manhattan Project involved three areas of the United States: Mussel

Shoals, Tennessee, Los Alamos, New Mexico, and Richland, Washington. Each was involved in the covert action to produce materials for the manufacture and detonation of the atomic bomb. As tens of millions of federal dollars poured in, construction projects and jobs related to this project attracted thousands of workers to the Hanford Nuclear Reservation near the confluence of the Yakima and Columbia rivers. The federal investments involved securing 670 square miles, relocating 1,500 residents, and, in time, building a series of nuclear reactors and extensive research laboratories (Schwantes 1989:326-327).

The federal government exercised significant impacts on the Columbia Basin's logging and lumbering industry through its management of national forests. The Forest Reserve Act of 1891 set the stage for a succession of executive withdrawals for watershed and other purposes. In time these designations included millions of acres of timber lands in the mountainous portions of the Columbia Basin. Most dramatic were the "Midnight Reserves," a series of executive orders in 1907 of Theodore Roosevelt. A Forest Service appropriation bill that year carried a rider barring the president from creating further reserves in several western states. Prior to signing the legislation President Roosevelt withdrew 16 million acres. By 1907 the land in national forests included five-sevenths of Idaho's standing timber as well as one-fourth of that in Oregon and one-fifth in Washington (Johansen and Gates 1967:542-543; Runte 1991:56; Steen 1991).

The federal government also seriously affected the range industries through its implementation of grazing restrictions, protection of watershed, and allocation of allotments within the forest reserves. Much of the impetus for these regulations came from Frederic V. Colville's influential ***Forest Growth and Sheep Grazing in the Cascade Mountains of Oregon*** (1898). Colville's recommendations led to an allocation and permit system whereby stockraisers secured grazing rights within bounds

of regulations set by the U.S. Forest Service. The Taylor Grazing Act of 1934 brought range regulation to 142 million acres in eleven western states. This law created Grazing Districts and put the U.S. Grazing Service, a predecessor to the Bureau of Land Management, in charge of improving and administering both the allotments and conditions on the public domain (Beckham 1984c).

Many in the Pacific Northwest viewed these "conservation" programs narrowly and voiced their criticism. They argued that "locking up" tens of millions of acres of timber and rangeland was a disservice to local communities and the regional economy. They also argued against further protection of watersheds and conservation of natural resources as unnecessary and unwise. The Clarke-McNary Act (1924) stressed conservation but called for the "continuous production of timber" on federal lands. The McSweeney-McNary Act (1928) represented a partial solution. The law funded forest experiment stations and research programs to balance conservation and harvesting. Ultimately the U.S. Forest Service, bowing to intense pressure for military needs during and after Wold War II, moved from conservation to harvesting of the federal lands. "Getting out the cut" became a mark of a good timber manager as the rush to higher and higher production of forest products drove prosperous local economies and created hundreds of jobs of engineers and silvaculturalists in the Forest Service (Johansen and Gates 1968:454-549).

Throughout the inter-montane interior of the Pacific Northwest the region's economy has responded to the presence and programs of the federal government. Reclamation projects--including the massive Grande Coulee Dam, the Owyhee Dam, and hundreds of miles of canals--have had immense consequences on construction employment and agriculture. Hydropower projects have dammed the once mighty Columbia, Snake, Clearwater and smaller tributaries and generated a

steady flow of relatively inexpensive electricity which has powered the aluminum industry and improved standards of living through the region. Defense spending has during wartime created facilities such as Camp Farragut, Camp Abbot, the Hermiston Army Depot, and Yakima Bombing Range. The Navy, Army, and Air Force have all helped stimulate and sustain the local economies of the region. Collectively the federal government, in its massive holding of lands and multiple agency programs, has contributed to the course and direction of the economic well-being of the Columbia Basin.

The Columbia Basin has since World War II lured many recreation seekers. Some have come to camp, hike, fish, and hunt. While national forests and BLM wilderness areas are major magnets, the North Cascades National Park and Hells Canyon National Recreation Area are specially managed areas. Heritage tourism sites include the Whitman Mission and Nez Perce National Monument, administered by the National Park Service, the National Historic Oregon Trail Interpretive Center at Flagstaff Hill, administered by the Bureau of Land Management, and the Malheur Wildlife Refuge, administered by the U.S Fish and Wildlife Service. These federal holdings, state parks, and private ventures which include jet boats, raft trips, dude ranches, and horseback outings add important, seasonal revenues to the economy.

In spite of diversification, however, the Columbia Basin has retained agriculture, forest products, and federal government projects as its most important economic enterprises. These emerged during the first four decades of settlement and, except for the early stimulus of mining, have remained fairly consistent the region's economy.

9. Federal Projects

The imprint of Uncle Sam rests heavily across the American West and particularly in the Basin and Plateau sections of the Pacific Slope. Federal ownership runs from fifty to nearly eight percent of the land. The history of those lands is a record of inaction, action in response to "pork barrel" legislation, management in light of changing mandates and special interests, and a mixed legacy of development and stewardship. The story is incompletely assessed and is yet unfolding.

Bureau of Indian Affairs

The Bureau of Indian Affairs was one of the first arms of the federal government to develop program activities in the Columbia Basin. Its initial activities commenced in 1842 when Dr. Elijah White secured appointment as Indian Agent for Oregon Territory. The position was anomalous in that American sovereignty had not yet been established in the region. Nevertheless White drew up a law code for the Nez Perce and also attempted to quell the anxieties of the Walla Walla and Cayuse about the trespass of Oregon Trail emigrants. White departed in 1845 (Washburn 1988:696). Joseph Lane, first territorial governor, also served as ex-officio Superintendent of Indian Affairs. In 1851 the Interior Department established the traditional system of civilian superintendents, agents and sub-agents. With the negotiation of treaties, 1853-68, the government began its program of removals and consolidation of native peoples on reservations.

For the next century the role of the BIA was to promulgate "civilization" programs and to serve as trustee for Indian lands and assets. To drive the process of assimilation, the Bureau established on-reservation day schools and boarding schools, and regional, off-reservation boarding schools. Indian students from the Columbia watershed thus

often journeyed to sites far removed from their homelands and families to attend Cushman Indian School (Tacoma, WA.), Chemawa Indian School (Salem, OR.), Greenville or Riverside Schools (Fresno and Riverside, CA.), Haskell Institute (Lawrence, KS.), or Carlisle Indian School (Carlisle, PA.). The BIA promoted agriculture, even on arid lands, and implemented the General Allotment Act (1887). It divided up reservations into individually-held trust parcels or, in the case of the Northern Paiute of the Harney Basin, apportioned over 10,000 acres in public domain trust allotments (Ruby and Brown 1981:174-184; Buan and Lewis 1991:73).

Throughout the century between 1850 and 1950 the federal government permitted and approved inroads on the Indian reservations. Congress repeatedly granted rights-of-way for railroad and wagon roads through Indian lands (Kappler 1904). The BIA Division of Forestry helped mark and sell reservation timber for logging and manufacturing by off-reservation timber companies. The BIA administered grazing leases which permitted non-Indians to run livestock on the reservations. The BIA also extended health care to enrolled tribal members, an activity which after World War II passed to the Indian Health Service and ultimately lodged in the Department of Health and Human Services. The BIA also approved attorney contracts and administered tribal judgment funds secured by tribes in litigation before the U.S. Claims Court and the Indian Claims Commission. Since the 1960s the BIA has assisted tribes in developing reservation economies. These activities have included business planning, loans for business start-ups, and programs to train tribal members to find and secure jobs. The BIA has provided technical services to tribes and assisted them in finding joint-venture partners for mining, logging, lumbering, and recreation development (Bureau of Indian Affairs 1981).

In the 1990s the BIA role has diminished. Increasingly tribes have

taken charge of their own contracting and program administration. This has been driven to a large degree by the Indian Self-Determination and Education Assistance Act, P.L. 93-638 (1975) and most recently by the Tribal Self-Governance Demonstration Project (1992) and the Tribal Self-Governance Act (1994). The Confederated Tribes of Salish & Kootenai, Pablo, Montana, were the first in the Columbia watershed to enter the Self-Governance Demonstration Project (Tribal Self-Governance Demonstration Project 1992).

General Land Office

The General Land Office commenced its operations in Oregon Territory in 1851. Its mission was to survey and dispose of the public domain in an orderly manner. John B. Preston, first surveyor-general, established the Baseline and the Willamette Meridian. From that contract surveyors mounted subdivisions of townships eastward to the Snake River (Cazier 1976:76-80; White 1982:114). The act of March 3, 1863, which created Idaho Territory did not call for land surveys. In 1864, however, Congress placed Idaho under the Colorado surveying district and, in time, the surveys commenced based on the Boise Meridian (White 1982:133). The General Land Office was thus charged to layout the land in an orderly manner so that disposition might take place with a minimum of dispute and contention. It functioned as the all-important place for filing on Homesteads and other entries on public lands as well as a sales office for cash entry purchases.

The General Land Office also played an early role in administration of forest withdrawals in the Columbia Basin. Congress in 1891 authorized the President to withdraw lands from the public domain as Forest Reserves. These were surveyed and assessed for their standing timber and condition by the U.S. Geological Survey and administered by the General Land Office. In reality, these were "paper reserves" since the

GLO had no on-the-ground personnel until 1898 to protect the properties from trespass or to fight fires. Congress relieved the General Land Office of forestry management in 1905 (Williams n.d.a:1).

Army Corps of Engineers

The roles of the Army Corps throughout the Columbia Basin have varied over time. Created in 1802, the Corps was initially charged with engineering and planning public works. In 1824 Congress assigned waterway improvements to the agency. From 1838 to 1863 a separate Corps of Topographical Engineers mounted special surveys across the American West. Lt. John C. Fremont of the Topographical Engineers in 1843 brought his party into the Snake and Columbia watersheds to explore and map the Oregon Trail. Following the merger of these two entities the Corps concentrated on military fortifications and civil works projects. In 1871 the Corps created an Engineer Office in Portland, Oregon, to expand an ambitious waterway improvement program throughout the Pacific Northwest. It opened a separate Engineer Office in Seattle in 1896 (Willingham 1992:v).

The Topographical Engineers provided special assistance to the Office of Pacific Railroad Explorations and Survey between 1853 and 1855. It also mounted the survey of the Fort Vancouver-Fort Dalles and the Fort Steilacoom-Fort Walla Walla military wagon roads. Congress funded these projects between 1853 and 1855. They were administered by the Pacific Military Wagon Road Office in San Francisco. The Topographical Engineers also wrote several reports about conditions and prospects of the interior of the Pacific Northwest. These included, for example, Lt. George H. Mendell's "Topographical Memoir of the Country from Fort Dalles to Fort Boise" (Jackson 1952).

Some of the most important work of the Corps of Engineers, developed, however, in its river surveys and programs to improve

navigation in the Columbia and its tributaries. Lt. William Heurer commenced work at the John Day Rapids in 1867-68 to remove rock obstructions. In the mid-1870s Major Nathaniel Michler worked on a master plan for river transportation from Astoria to Lewiston. The project included mapping obstructions and assessing bypass actions or facilities. The Corps estimated that with canals and locks at the Cascades and Celilo, a mere $150,000 more would open the way from the mouth of the Deschutes to the mouth of the Clearwater. The Corps designed the complex Cascades Canal with locks and let contracts in 1878. The project endured numerous cost overruns and years of labor and was not completed until 1896 (Willingham 1983:27-36). In 1881 Lt. Thomas W. Symons mounted an important survey of the Columbia from the mouth of the Snake to the Canadian boundary. Symons wrote a long, narrative report and mapped obstructions for future Corps projects (Willingham 1983:50).

On the lower Snake the Corps of Engineers constructed a government scow with crew quarters and drilling platform. This went into use for drilling and blasting rocks from the river. The work proved perilous, especially when working at low water during freezing winter conditions. Explosions and drownings killed at least fifteen workers. By 1890, however, the projects had opened more than 70 miles of the lower Snake to regular steamboat transportation. The Corps also identified and mounted projects on the Columbia, including removing obstructions at Priest Rapids. These projects opened the river to steamboat use as far as the mouth of the Okanogan by 1887 (Willingham 1992:25-28).

The Corps' upper Columbia projects commenced in 1890 and continued until 1917. While railroads laced the region, some residents yet argued for federal river improvements to make transportation more price competitive. The Corps mounted projects to blast rocks and improve channels at Priest Rapids, Rock Island Rapids, Cabinet Rapids

and Entiat Rapids. In some places the engineers designed a system of ringbolts to permit steamboats to winch their way upstream through the swift waters. In 1908 Eugene Ricksecker mounted a new Columbia River survey from Bridgeport to Grand Rapids just below Kettle Falls. The recommendations brought funding and a project in 1911 to remove rocks and improve the channel. The Corps did not pursue further the efforts of some upper Columbia residents to build locks and canals for navigation to Kettle Falls or to the Canadian border (Willingham 1992:67-70).

Other parts of the Columbia Basin were also targeted by the Corps of Engineers. In the years 1899-1910 the Corps removed materials form the Pend O'Reille River in Idaho and Washington. It also carried out snag removal on 27 miles of the Flathead River, removing rocks in Flathead Lake, and improvements for some 60 miles along the Kootenai River in Montana (Willingham 1992:72-73).

A turning point came in the 1920s for the Columbia River Basin in federal water projects. A combination of local and state initiatives--many of them driven by an interest in irrigation--led Congress to pass the River and Harbor Act of 1925 which directed the Corps of Engineers and the Federal Power Commission to study navigable streams "whereon power development appear feasible and practicable." The agencies were instructed to draw up plans for those rivers to develop water power, harness floods, and provide for irrigation. In 1926 the House of Representative received the "308 report" which assessed ten river basins. The Columbia featured prominently in the study and appeared feasible for major federal projects. The "308 report" contained 1,845 pages and addressed projects and costs for navigation, power, irrigation, and flood control. The plan called for ten dams on the Columbia. Grand Coulee would check the upper river and create a massive irrigation project. Bonneville would close the lower river and facilitate the first part of

extensive navigation system. The "308 report" became the blueprint for nearly 40 years of major federal river projects in the Columbia Basin (Willingham 1983:93-95).

The interest of the nation in harnessing the power of the Columbia coincided with efforts by the New Deal administration to attempt to solve the crisis in the economy. The Bonneville and Grand Coulee Dam projects appeared ideal. They would provide jobs, lay the foundation for revived and new regional manufacturing, generate the power to pour irrigation water over an area at least the size of Rhode Island, and check the annual floods of the Columbia. The "308 report" projects coincided with the New Deal commitment to "Relief, Recovery, and Reform."

The Bonneville project commenced in 1933 and included a dam, massive power house, locks, and fish ladders. The backpool reached 48 miles upstream to The Dalles and could accommodate, with the locks, large tugs, barges, and even small, ocean-going passenger vessels. The powerhouse was designed to hold two turbines but had the potential to house eight more. More than 4,000 workers labored on the projects at Bonneville. In September, 1937, President Franklin D. Roosevelt dedicated the dam (Willingham 1987).

In 1861 Capt. Leonard White risked lives and property to run the *Colonel Wright*, a steamboat, up the lower Snake to Lewiston. That event "proved" to succeeding generations that the river was navigable and, for many years, the *Spray, Cacadilla, Tenino*, and other vessels supplied Lewiston by dodging the rocks and rapids of the river. Although mineral production soon faded, the spread of wheat farming and need of those producers to ship their harvests to market rekindled the interest in improving navigation on the lower Snake. Decades passed, however, before a reluctant Corps of Engineers and Congress authorized a series of dams and locks to transform Lewiston-Clarkston into a port connected

directly to the North Pacific via the Snake and Columbia rivers. Study followed study until finally at the end of World War II Congress approved construction of four dams on the lower Snake. To manage this volume of new work the Corps created the Walla Walla District and in late 1948 it took over the projects. The Corps constructed Ice Harbor, Lower Monumental, Little Goose, and Lower Granite dams. It anticipated building Asotin, Nez Perce, and High Mountain Sheep dams flooding major portions of Hells Canyon. Public pressure persuaded congress to abrogate that planning and set aside the region in 1975 as the Hells Canyon National Recreation Area (Petersen and Reed 1994:73, 89-146, 187-190).

Federal Power Commission

As a licensing agency, the Federal Power Commission has directly and indirectly exercised a significant impact on the development of the Columbia Basin. Its review of reports prepared by the Corps of Engineers and the Bureau of Reclamation, its work with private utility companies in reserving power sites and building facilities, and its coordination of development of the network of power distribution lines have made it a key if often low visibility, player.

Table 6.

Major Power Projects, Columbia River and Major Tributaries

East of the Cascades to 1959

Projects	Gross Head (feet)	Installed Capacity (Kilowatts)	Storage (acre-feet)
Kootenay River			
Corra Linn	53	40,500	817.000
Upper Bonnington	70	54,700	Pondage
Lower Bonnington	70	47,250	Pondage
South Slocan	70	47,250	Pondage
Brilliant	93	81,600	Pondage

Clark Fork-Pend Oreille			
Hungry Horse	477	285,000	2,980,000
Kerr	187	168,000	1,219,000
Thompson Falls	47-60	30,000	Pondage
Noxon Rapids	154	336,000	Pondage
Cabinet Gorge	97	200,000	Pondage
Albeni Falls	28	42,600	1,155,000
Box Canyon	28-42	60,000	Pondage
Waneta	210	144,000	Pondage
Snake River and Tributaries			
Palisades	245	114,000	1,202,000
American Falls	48	27,500	--
Upper Salmon	45	34,500	Pondage
Lower Salmon	59	60,000	Pondage
Anderson Ranch	326	27,000	423,000
Brownlee	272	360,000	1,000,034
Oxbow	122	190,000	Pondage
Little Goose	100	405,000	Pondage
Lower Monumental	100	405,000	Pondage
Ice Harbor	100	270,000	Pondage
Columbia River (Mainstem)			
Grand Coulee	341	1,944,999	5,072,000
Chief Joseph	171	1,024,000	Pondage
Wells	68	490,000	Pondage
Rocky Reach	95	712,000	Pondage
Rock Island	49	206,000	Pondage
Wanapum	80	831,000	500,000
Priest Rapids	80	788,000	170,000
McNary	78	980,000	Pondage
John Day	104	1,200,000	500,000
The Dalles	86	1,119,000	Pondage
Bonneville	59	518,400	Pondage

(Krutilla 1967:75)

Collectively these federally licensed projects--excluding those in the table which are located in British Columbia--represent major commitments of federal dollars and management of water and power resources in the region. Table 6 includes major private or public utility company projects operating under Federal Energy Commission licenses on the Columbia and its major tributaries. Collectively these river projects have shaped modern transportation systems, provided irrigation water for major alterations of the Columbia Plateau and Snake Plain

environments, and generated electricity to light homes and businesses, and power industry.

U.S. Army and Navy

Both the Army and Navy have constructed facilities and maintained personnel in the Columbia watershed. At times their activities have played highly important roles in the local economies, in development of facilities, and in maintenance of national defense. In the 19th century the Army established military posts throughout the region. Its important supply and command locations were Fort Dalles, Oregon, and Fort Walla Walla, Washington. The Army assigned troops to guard duty on or adjacent to Indian reservations. These posts included Fort Simcoe, Fort Harney, and Fort Klamath. As the result of Indian hostilities between 1850 and 1877 the Army established shorter term posts throughout the region. These included Fort Boise, Idaho, Camp Warner, Oregon, and Fort Taylor, Washington (Bancroft 1890).

The period of most significant military build up and expenditure in the region occurred during and following World War II. In 1942 the U. S. Navy established Camp Farragut at Lake Pend Oreille. It became in that decade the largest city in Idaho and the second largest military training facility in the United States. During the war the U. S. Army erected Camp Abbot on the Deschutes near Bend, Oregon. This fort trained recruits for military service. The U.S. Army also developed the Umatilla Army Depot, a facility with hundreds of underground storage bunkers for chemical weapons and armament storage, and the Yakima Bombing Range. Nearby the Army secured a 670 square-mile area just upstream from the confluence of the Yakima and Columbia rivers, moved out 4,500 residents, and in 1943 began construction of facilities to produce plutonium for atomic weapons. The secret Hanford Project drew in 45,000 workers and led to a population boom in nearby

Richland, Pasco, and Kennewick. The Cold War led to continuing federal investments in reactors and laboratories at Hanford. Today the efforts to clean up the accumulated radioactive wastes yet feed the economy of southeastern Washington. Although all reactors are closed or off-line, federal expenditures continue at this site (Schwantes 1989:326-327, 379-380).

Bureau of Reclamation

The arid interior of the Pacific Northwest is an anomalous region. The Snake Plain and Columbia Plateau are essentially a great sagebrush and bunchgrass steppe, yet bisecting them are numerous rivers. The challenge for agriculturalists was to find a way to get the vast volumes of water from the canyons to the potentially fertile mesas above. Uncle Sam was to play an important role in that enterprise. In 1902 Congress passed the Newlands Act. The legislation proposed that the federal government would make major irrigation improvements, would design each project to provide maximum benefits to the entire area, and would self-liquidate the costs incurred. The law called for the eventual turn over of the projects and their management to the users. The U.S. Reclamation Service (the Bureau of Reclamation since 1923) was to administer the Reclamation Fund and mount the improvements--dams, canals, siphons, and other distribution systems. Revenues from the sale of public lands in thirteen western states and four territories funded the Reclamation Fund. By 1903 $5.8 million was available for projects in Idaho, Washington, and Oregon (Johansen and Gates 1967:382-393).

In several places--the Deschutes, Yakima, Klamath Basin, Harney Basin--private irrigation initiatives of Carey Act (1894) projects had already taken the best locations. The Carey Act provided for the transfer of federal lands to sates if the states contracted with commercial companies or individuals for their irrigation. In Idaho the law

worked well. The Twin Falls South Side project covered 240,000 acres and was one of the largest. By 1917 over 868,000 acres in Idaho were included in Carey Act projects and of that 456,000 acres were in production (Johansen and Gates 1967:388-389).

The projects under the Newlands Act included the Umatilla and Klamath projects in Oregon, the Boise-Payette project in Idaho, and the Yakima and Okanogan projects in Washington. The Reclamation Service by 1909 had brought 125,000 acres under irrigation. In time the federal agency built numerous dams, canals, and ditches. The reservoirs and river diversions turned much arid land into production. The elaborate Lost River Project eventually irrigated 187,000 acres in the Klamath Basin. The Yakima project was designed to irrigate 450,000 acres. These initiatives also led to the Minidoka project in the Boise Basin (Johansen and Gates 1967:393-398).

The federal planning, engineering, and outlays for irrigation brought tens of thousands of acres of the upper Snake watershed into agricultural production in the early twentieth century. High on the priority list were the lands of the Payette and Boise valleys. The U.S. Geological Survey mounted initial studies; these were then refined and expanded by the Bureau of Reclamation to include a storage reservoir on the Boise River, another series of three at Deer Flat, diversion works on both rivers, and extensive distributing canals. The Boise-Payette project was illustrative of the important teamwork between local interests and federal investments of engineers and money to make projects happen (Peebles 1969:16-31).

Grand Coulee Dam and its related irrigation systems became the most massive of all projects mounted by the Bureau of Reclamation in the Pacific Northwest. Funded as another New Deal program, construction commenced at Grand Coulee in 1934 and continued until 1941. The plan was to dam the Columbia, generate electricity, and

power twelve massive pumps to raise water from Roosevelt Lake to the sagebrush plain. The distribution system did not start water deliveries until 1951. By the mid-1980s the Grand Coulee project irrigated 540,000 acres, serving 6,000 farms producing 60 different crops (Schwantes 1989:308).

U.S. Forest Service

The creation for Forest Reserves commenced in the Columbia Basin in 1892 with the east-draining sections of the forest withdrawal which, in time, became Mount Rainier National Park. Additional acreage passed in 1893 into the Cascade Range Forest Reserve created by Grover Cleveland. In 1897 Cleveland proclaimed 13 new reserves in the American West. These included the Priest River withdrawal of 645,120 acres in Idaho. Many opponents criticized these decisions, alleging that the federal government was locking up valuable resources needed by miners, sawmill owners, sheep and cattle grazers, and others. The Pettigrew Amendment of 1897 stipulated that any future withdrawals could be made only for watershed protection and timber production. Between 1904 and 1906 the federal government renewed withdrawals for national forests. These included Baker City, Blue Mountains, Chesnimnus, Fremont, Goose Lake, Heppner, Maury Mountain, and Wallowa in Oregon and the Wenaha which lay in Oregon and Washington. In 1907 Representative Charles W. Fulton of Oregon introduced an amendment to prohibit further forest withdrawals by executive order in the Pacific Northwest. In the days before the new law came into effect President Theodore Roosevelt made the infamous "midnight reserves." He set aside 16 million acres, including the Blue Mountains, Coville, and Imnaha national forests (Runte 1991:55-56; Williams n.d.b:1).

The implementation of management in the national forests

evolved gradually and was based upon a series of classification projects assessing standing timber volumes, species, and condition as well as special reports. These were permissible with congressional approval in 1897 of the Organic Act for the Division of Forestry. In 1898, for example, Frederick V. Colville, produced the influential Bulletin No. 15, ***Forest Growth and Sheep Grazing in the Cascade Mountains of Oregon***, based on a previous season of field examination. Colville called for a new system of regulations--closing some areas entirely, issuing grazing allotments on a permit basis, collecting fees, and securing cooperation with local growers' associations (Colville 1898).

In 1905 the Forest Reserves were transferred from the General Land Office to the Bureau of Forestry in the U.S. Department of Agriculture. The Forest Service was created on July 1, 1905, to manage those lands which, in 1907, were henceforth identified as national forests and no longer as "reserves." The challenges to the limited staff were numerous. They included surveying and marking boundaries, assessing timber volumes, mounting fire protection and fire fighting programs, building trails, and establishing working relationships with residents who lived adjacent to the forests. The Forest Service personnel had to cope with trespass, theft, hostility from those who opposed the creation of the vast withdrawals from public entry, isolation, and absence of even the most rudimentary infrastructure for carrying out their tasks. They lacked lookouts, guard stations, drift fences, telephone lines, trails, bridges, and other basic improvements which would contribute to doing their tasks. The years 1907-33 were thus ones of modest but steady steps. Construction of trails, shelters, and lookouts, fire-fighting, and grazing monitoring occupied the energies of the limited staff (Williams n.d.b:3-4; Steen 1991:34-35).

The years 1933-45 proved highly significant for the national forests of the Columbia River watershed. The Civilian Conservation Corps,

established in 1933 as a "make-work" initiative of the New Deal, placed tens of thousands of young men on the lands administered by the Forest Service. These workers constructed corrals, drift fences, roads, trails, guard stations, ranger stations, reservoirs, cattle guards, lookouts, campgrounds, and telephone lines. They fought fires, planted trees, eradicated insects, collected seedlings, worked on stand improvement, and laobred in nurseries. Their work laid the basis for a much expanded recreational use and management of the forests. In Oregon the CCC employed a total of 86,775 men with an average of 51 camps per year; in Washington 73,339 men served with an average of 43 camps per year. In the two states the combined outlays were $164.3 million for the programs. To a much lesser extent the CCC labors continued from 1942 until 1945 (and in some instances longer) by the conscientious objectors during World War II who were held at former CCC camps. The "conchies" worked in reforestation and fire fighting when other men were away in military service. The Aircraft Warning Stations, established in 1942, employed many women to staff fire lookouts and monitor the skies for passing aircraft (Throop 1979; Williams n.d.b:4, n.d.c:3-10; Williams 1986).

Subsequent to World War II the Forest Service shifted from a largely custodial management to opening forested areas for logging, recreation, and silvaculture. Humans, not nature, took control of removing and restocking the forests. The Forest Pest Control Act of 1947 activated initiatives in the forests of the Columbia Basin beset by insect infestation. By the 1960s the forests were perceived as under "multiple-use." Local economies tapped heavily into the cutting and manufacturing of forest products harvested in the national forests. The Forest Service grew rapidly in personnel, swelling its ranks with engineers to design roads and bridges, workers to maintain a rapidly expanding road and highway system, and clerical and accounting staff to process

the paper associated with cruises, timber sales, and reforestation activities. The Multiple Use-Sustained Yield Act of 1960 became a benchmark in the unfolding programs (Wiliams n.d.b:5).

The Forest service also was heavily impacted by other initiatives approved by Congress. These included the Wilderness Act of 1964, the wilderness review process (later called RARE I) which commenced in 1972, the Wild and Scenic Rivers Act of 1968, the National Environmental Policy Act of 1969, and the creation in 1975 of the Hells Canyon National Recreation Area under Forest Service administration. These measures and increased public awareness that the national forests belonged to all the people of the United States--not just those residing nearby--vastly complicated the roles of planning and public process for the Forest Service. The Youth Conservation Corps (1970) and Young Adult Conservation Corps (1977) provided the Forest Service with new laborers but the necessity of hiring teachers, counselors, and other program officers. The Forest Service also faced the highly political ramifications of RARE II, dispute about the use of herbicides and pesticides, challenges to clear-cutting, and the Endangered Species Act of 1973 (Williams n.d.b:6).

U.S. Grazing Service and Bureau of Land Management

In 1934 Congress passed the Taylor Grazing Act. The law brought the heretofore unregulated public domain under the oversight of the small but motivated staff of the Grazing Service officials who worked with local advisory boards to allocate and manage the rangelands. The Bonanza Grazing Unit in the Klamath Basin was the first organized under the Taylor Act. It served as a prototype for the management system implemented during the New Deal. By 1936 the Grazing Service had established thirty-seven districts in eleven western states and issued 15,000 licenses for over 8,000,000 head of livestock. When amended in

1936, the Grazing Service gained responsibility for 142 million acres of public lands in western states. The Civilian Conservation Corps provided much of the labor to carry out Grazing Service programs in the 1930s for range improvement. The U.S. Biological Survey identified target programs for elimination of poisonous weeds, restocking with native grasses, and varmint control (Beckham 1984c:13-14).

In 1946 Congress merged the Grazing Service and the General Land Office to create the Bureau of Land Management. The BLM took over responsibilities for cadastral survey, registration and patenting of mining claims, grazing and timber administration, recreation, and other responsibilities. Congress further defined the roles of the BLM through the Classification and Multiple Use Act (1964) where it mandated the administration of public lands for "outdoor recreation, range, timber, watershed and wildlife and fish purposes." In the 1970s concern about oil embargoes and energy shortages generated a highly active period for the BLM to supervise leases for exploration of geothermal, gas, shale oil, and oil resources. In 1976 Congress enacted the Federal Land Policy and Management Act (FLPMA). The law presumed that the public domain was a permanent part of America's national heritage and that its lands were to be administered in perpetuity. FLPMA affirmed multiple uses of the public domain, reaffirmed principles of cooperative management such as that under the original Taylor Grazing Act, required sustained yields, multiple use planning, wilderness designation studies, and control of mining operations. The Public Rangelands Improvement Act (PRIA) of 1978 specifically addressed range, soil, and water conditions and affirmed the need of the BLM to implement the planing process mandated by FLPMA (Muhn and Stuart 1988).

Depression Era Projects

The efforts of the New Deal administration to find relief, reform,

and recovery in the midst of the Great Depression of the 1930s had widespread consequence throughout the Columbia Basin. The Civilian Conservation Corps, sometimes referred to as President Franklin D. Roosevelt's "Green Army," played a highly important role. The CCC established camps throughout the Columbia watershed and mounted a brisk, eight-year program of construction. Because the Forest Service had long lacked staff and budget to develop facilities, the CCC filled that need. Its workers constructed thousands of miles of trails and roads and erected all types of facilities. These included campgrounds with community kitchens, rock fireplaces, and picnic tables to bridges (Throop 1979; Williams 1986). Highly important to forest management was the construction program of lookouts. By the early 1940s Washington had 646, Oregon had 805, Idaho had 966, and Montana had 626 lookouts (Kresek 1985:9).

The CCC enrolled a total of 2.5 million young men, most of them from urban areas in the East. It brought them west and trained them in manual labor skills. Donald Tanasoca of New Jersey worked for the CCC in 1939 on the Payette River in Idaho. His recollections are an interesting measure of the consequences of the program:

> I don't think I could have spent six months of my life more profitably anywhere. It's an indelible experience in a young man's life. The fysical benefits alone were worth my enrollment. I emerged stronger, hardier and proud of a better body. I would never discourage anyone wishing to join the C's. . . . It makes a man out of anybody with guts. The outdoor life is healthy and inspiring. A city boy learns that the world is larger than just the city. This contact with nature and association with other boys broadens the mind and gives a deeper insight into life. CC life teaches a person to be independent and shows the value of money (Tanasoca 1967:24).

Donald Tanasoca returned to New Jersey. Thousands of others who served in the CCC did not go home. They fell in love with the West, married, and settled down to lead productive lives in a land they knew intimately from their work for the Grazing Service, Forest Service, or in improvements in small towns.

The New Deal measures changed the face of many towns in the Columbia Basin. The Works Projects Administration (WPA) launched ambitious construction programs to erect post offices, federal office buildings, and libraries. The WPA leveled ground with hand laborers for school playgrounds, local airports, and city parks. Unemployed architects went to work to measure and record data on the built environment in the Historic American Buildings Survey (HABS). Unemployed writers compiled information on folklore and history. They wrote and published the state guidebook series. The volume for Idaho, for example, was edited by the novelist Vardis Fisher. Howard McKinley Corning, a poet, edited the ***Dictionary of Oregon History*** in that state's program. The Historical Records Survey put workers into every county courthouse in the Columbia Basin to inventory and describe their archival holdings. Many of the WPA guides were published between 1935 and 1942 (Cressman 1945:170-173; Schwantes 1989:355).

The ramifications of the New Deal touched the Columbia Basin in other ways. The Rural Electrification Administration laid plans and worked with local utility companies to extend lines to small communities and isolated farms. The Soil Conservation Service promoted windbreaks, contour plowing, and preservation of topsoil. The Bankhead-Jones Act (1937) funded the relocation of hundreds of families who had failed at homesteading on the High Desert and closed those lands to any further public entry. One of the large Oregon tracts of nearly 100,000, for example, was designated the Crooked River National Grassland and placed under the administration of the Ochoco National Forest (Minor,

Beckham, Toepel and Greenspan 1987).

Bonneville Power Administration

Construction of dams at Bonneville and Grand Coulee created a need to distribute and market electricity. In 1937, in atmosphere of controversy over "public" versus "private" power, Congress created the Bonneville Power Administration. BPA was charged with establishing electricity rates, assisting in industrial development and creation of jobs, in helping the Public Utility Districts gain electricity, and building a transmission system to move the power from dams to the public. Congress granted an initial $10.7 million in 1938 to start the process of laying transmission lines and building substations. These included a 220,00 volt line from Grand Coulee to Bonneville, a 115,000 volt line from Bonneville to The Dalles, and others into western Oregon and Washington (Tollefson 1987:127-136).

The work of the Bonneville Power Administration expanded rapidly in the 1950s with the construction of numerous new dams and generating facilities throughout the Columbia watershed. As facilities such as Dworshak Dam came on line in 1973 to produce 400,000 killowats of electricity (and a total capacity of 1 million killowats), the BPA extended transmission lines. It also became a key player in the Washington Public Power Supply System (WPPSS) and the debacle which involved the effort of that entity to build three and possibly five nuclear reactors to generate hydrothermal electricity (Tollefson 1987:360-362, 388-400).

In the past 150 years the involvements of the federal government have played singular roles in the interior of the Pacific Northwest. The imprint of Uncle Sam is large. It has entailed the holding of millions of acres of land under the administration of the U.S. Forest Service, Bureau

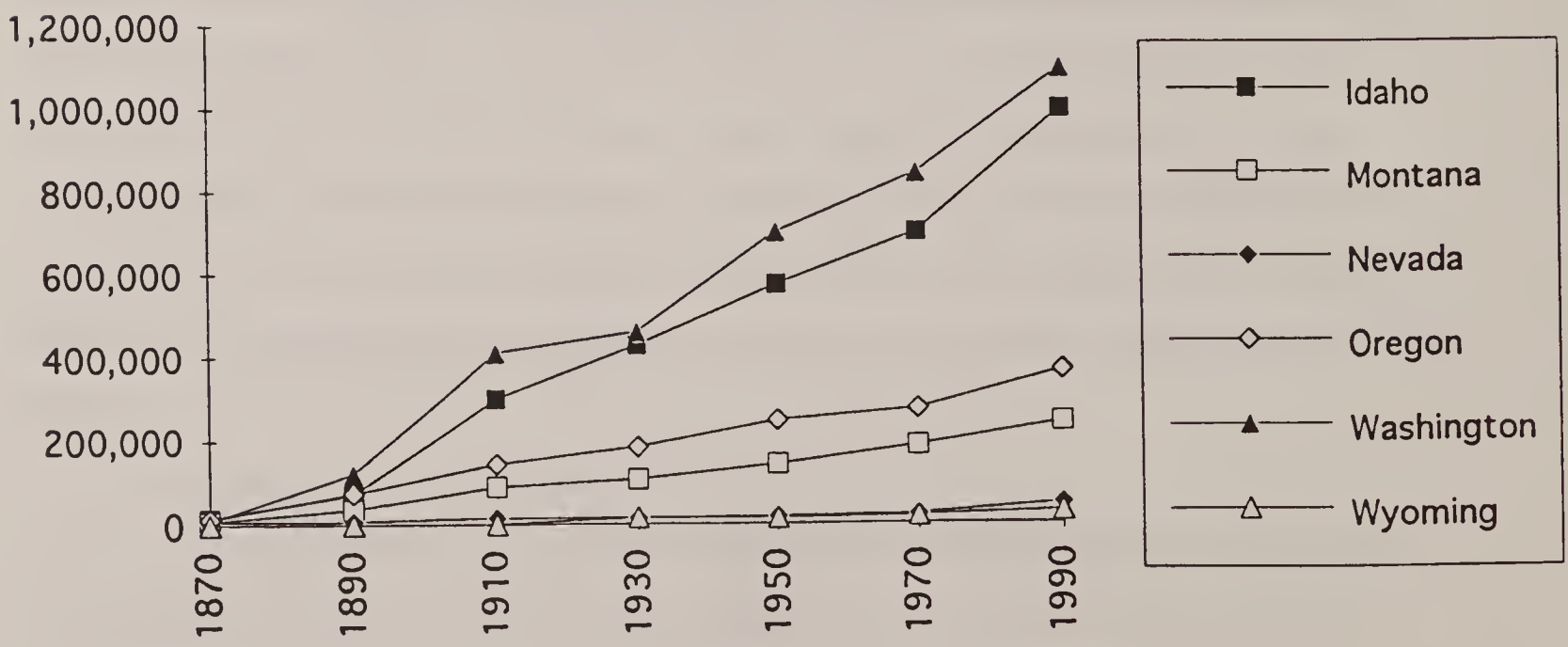
of Land Management, and other agencies such as the U.S. Fish and Wildlife Service. Congress has funded 100 years of river, canal, and lock projects, and created one of the most extensive systems of hydropower generation facilities in the world. The federal government has worked separately and in partnership with both private and public utility companies in these projects and in the distribution of power to commercial and domestic users.

The federal government has also had great impact on the people of the Columbia Basin. It has created jobs, shaped local economies in wartime and peacetime with payrolls, constructed military bases, and waged war on the Great Depression with massive public works projects. It has left a mixed legacy of "good works" and problems. The chemical weapons at the Umatilla Army Depot, unexploded munitions scattered across the Yakima Bombing Range, and the massive toxic waste and radioactive hazards within the Hanford Reservation pose immediate and long-term problems for the area. Collectively their amelioration may force difficult decisions on funding priorities and phasing of projects. The federal government has been a remarkable player in shaping the Pacific Northwest and the Columbia watershed in particular.

10. Population

The records of the Bureau of the Census provide an interesting perspective on the size, nature, and change in the human population of the 91 counties lying in the Columbia Basin. The area includes land in Washington, Idaho, Montana, Wyoming, Oregon, and two counties in Nevada, but is identifiable because the census is tallied by state, county, and precinct. The census enumerations of 1850 did not identify any residents in the project area excepting a scatter of settlers--fewer than 100--between The Dalles and Hood River. For purposes of this study the census was examined at twenty-year intervals, 1870-1990. The numbers entered were a 100% tally of all people residing in the project area enumerated in the federal, decennial census schedules. Until 1900 this normally excluded "Indians not taxed" who lived on reservations and were enumerated annually from 1887 to 1940 in the Indian Census Schedules. By 1900, however, the federal schedules also carried the Native American population and thus they appear in the twentieth century tallies used in this presentation.

Graph 18. Population Growth, 1870-1990



(Bureau of the Census 1872b, 1895b, 1913b, 1932b, 1952b, 1972b, 1993)

In the subject area the population grew dramatically. [See Appendix, Population Growth.] The reported population in 1870 was nearly 48,000 persons. Twenty years later it had increased six-fold to 308,982. The rise was in a large degree to the impacts of mining rushes which brought thousands to the camps of eastern Oregon and Idaho and, in turn, thousands more to settle on the grasslands and river bottoms of the region. The population more than tripled by 1910 in the 91 counties to 956,535 persons and doubled to more than 1.2 million in 1930. Growth slowed in the next twenty years. The Great Depression was assuredly a factor; the impact of World War II was another. Even though military build-ups created new communities such as Camp Farragut in northern Idaho or Camp Abbot in central Oregon, they were relatively short lived. The Tri-Cities of southeastern Washington, however, became a permanent, new population base in the region. In the years 1930-50 the population grew by nearly a half million persons and almost at the same rate to 2 million in 1970. The twenty years between 1970 and 1990, however, proved highly significant to the region when the population grew by nearly 750,000 people or nearly seventy-five percent.

Minorities--African-Americans, American Indians, Chinese, Japanese, and others--when enumerated, tallied less than five percent of the total population. In some precincts in mining camps in 1870 there was a relatively large Chinese population in terms of total numbers of residents in the precinct. When compared to the overall population, however, the Chinese were a small element. Native American figures continued, in most instances, to decline until the 1940s when improved health conditions and, perhaps, counting confirmed growth in their communities. A small Japanese population settled in the Treasure Valley of Malheur County, Oregon, and in the Boise Basin to engage in farming. The community did not grow sizeable but has continued to play an important role in those area's economies.

Data is available for 1980 on minority populations in Oregon, Washington, and Idaho. The following table should be considered with the realization that only Idaho lies wholly within the Columbia Basin. The data for both Oregon and Washington includes the much larger population base west of the Cascade Mountains.

Table 7.

Selected Minority Populations, Idaho, Oregon, and Washington, 1980

	African-American		Hispanic		Native American	
	Number	Percent	Number	Percent	Number	Percent
Idaho	2,716	0.3	36,615	3.9	10,418	1.1
Oregon	37,059	1.4	65,833	2.5	26,587	1.0
Wash.	105,544	2.6	119,986	2.9	58,159	1.4

(Schwantes 1989:391)

The project area contains special minorities who do not show up in any census enumeration. These include Basques, many of whom engaged in ranching and sheepherding. The Basques live in Malheur County, Oregon, and several counties in western Idaho. Another population which is a self-selecting social community is the Latter Day Saints. While most in the project area are of European descent, they often work, live, and engage socially within their own community. The Mormons are distributed throughout the region but have particular concentrations in southern Idaho and parts of eastern Oregon.

The Columbia Basin is an area of light population densities. The population of Idaho is 11.5 per square mile, while that of Oregon is 27.4 and Washington of 62.1. These latter figures, however, include the much more densely populated parts of the states west of the Cascades. Perhaps a clearer measure of the light concentration of people is the statement of Carlos Schwantes who has observed, "If the Pacific

Northwest were as densely populated as New Jersey, it would contain more residents than the entire United States currently does" (Schwantes 1989:389).

11. Conclusions

The Columbia River watershed is a fascinating area. Joined as one geographical province and united by a common geological and ecological history, it is divided between several states and two countries. Primarily a great plain lying atop repeated flows of ancient basalts, it gives the initial impression of an arid landscape where water is scarce and extremes of summer heat and winter cold prevail. The setting is, however, far more complex, for the region is bisected by the great river system of the Columbia and its tributaries which are fed by the snowmelt and rain waters of the eastern Cascades and the Blues, Bitterrroots, and Rockies. It is thus a landscape of multiple faces and tremendous potential, provided that those who lived there develop the means to use its resources.

The Columbia--abundant in salmon and flowing through a land with excellent root and seed crops and nearby hunting areas--has been an Native American homeland for the past 10,000 years. The lifeways at historic contact demonstrated a deep and intense relationship to the land and an understanding of its resources. The time-tested Plateau lifeway focused on a seasonal round. The native world was changing even before the arrival of Lewis & Clark in 1805. The acquisition of the horse and a small flow of trade goods from the Pacific and from east of the Rockies hinted at what was to come.

The Columbia Basin was traversed early by explorers and more deeply by fur seekers. Repeatedly in the 1820s Peter Skene Ogden carried out the Hudson's Bay Company policy to exterminate all fur-bearing animals in the Snake watershed to create a "desert" so devoid of attraction that any Americans crossing South Pass would surely turn back and not compete with the British. The Hudson's Bay Company policy largely succeeded. The few competitors--Jedediah Smith and

Nathaniel Wyeth--yielded and moved on. The fur trade remained a British monopoly. The fur trappers spied out the region, noted some of its features, and began the process of change in the traditional cultures of the Native Americans. They introduced goods, technologies, illnesses, and forces which proved highly consequential to those people.

Initially both explorers and emigrants dismissed this region. Most the product of Eastern Woodland environments, they found the Columbia Basin forbidding, sandy, dusty, hot, and lacking potential. While a few saw the oasis settings of the pluvial lakes in the northern Great Basin or the well-watered stream courses along the Boise, Grande Ronde, or other rivers, most realized that the isolation of the region precluded any effective economic development beyond mere subsistence living. The agricultural commodities were too far from markets to make settlement a reasonable gamble. Missionary reports, narratives of travelers, emigrant guidebooks, and land hunger in the 1840s helped inspire widespread overland migration and, ultimately, the settling of the region.

For two decades emigrants hurried on through the Columbia Basin. They dismissed the Snake Plain as a "wormwood barren," cursed the dust and winds of the Columbia Plateau, and pressed on to the woodland areas west of the Cascades. The situation began to change when stock drovers saw the tremendous acreages of well-watered meadows where they might graze their herds. They knew they could walk their cattle and sheep to market and those markets came with reasonable distance with the building of the Union Pacific-Central Pacific in 1869. Equally important was the explosive development of local markets as a result of repeated mineral rushes in the 1860s. The mines of the upper John Day River, Blue Mountains, Salmon River, and Boise Basin set the stage for subsequent placer and lode mining and the creation of a substantial base of residents whose needs for goods, foods, and services led to the

development of transportation networks and local communities.

Mining and ranching anchored the initial economy of the Columbia Basin. In time, the discovery of the agricultural potentials of the region for wheat, oats, and barley and the advent of irrigation opened many other prospects. Shipment of agricultural commodities, including fruit and vegetables, and forest products, however, remained a challenge. Even when railroad systems and steamboats laced together the region in the last three decades of the nineteenth century, the costs for shipment were high and markets were often far distant. The playing out of mineral deposits transformed some "cities" into ghost towns and made others--such as in northern Idaho--company towns were militant miners sometimes faced hired police representing non-resident investors.

The federal government has played and continues to play a major role in the Columbia Basin. Its vast holdings of land, specific congressionally-funded initiatives, and special projects such as the atomic weapons production at Hanford, hydropower generation on the rivers, timber production and sales from the national forests, and rangeland management on the public domain have all had impact on the region. Uncle Sam's workers have enriched the cultural lives of many small towns and rural areas in the region and provided new insights and opportunities for residents who, sometimes, have had their doubts about "outsiders" who have come to manage "their lands."

The Columbia Basin is a region largely dependent on other places. Its markets are largely external. The projects which have shaped its economy have been funded from outside the region. Much of its land is owned by the people of the United States. These realities have sometimes bred frustration and hostility. They are, however, facts of life and an interesting aspect of what sets apart the interior of the Pacific Northwest as a hinterland. It is a place of few large cities yet good

connections with the rest of the country. It is a place of investment and private property ownership, yet a setting where public projects and national interest remain high and, sometimes, in the driver's seat.

The major figures of western history have passed this way. Indians, explorers, fur seekers, missionaries, emigrants, cattle drovers, town developers, miners, loggers, teamsters--all of that familiar cast of characters have been players in its development. Unlike some parts of the West, however, the interior of the Pacific Northwest has benefitted dramatically from federal hydropower and irrigation projects, timber harvests, and river improvements. It is a place where national agendas have been played out parallel to local interests. Both are part of the same history. The calculation is an interesting one even when it is not fully understood by those who have lived through it. Such, perhaps, is the nature of the human experience, for it is difficult to understand one's own history while living it.

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